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U. S. Department of Agriculture

Salesman's Manual and Planter's Guide



Hardy Northern Grown

Fruit Trees

Evergreens

Shrubs

Shade Trees

Roses and Vines

Perennials

Sherman Nursery Co.

Charles City, Iowa

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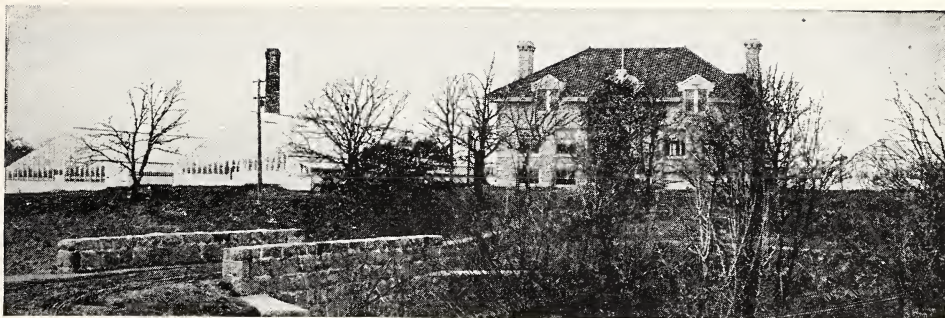
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Introduction

IT IS A PLEASURE TO PRESENT herewith a carefully revised edition of our Planter's Guide. We have taken great pains to catalogue only such varieties as we consider of special merit.

We are constantly on the watch for new things, both in the fruit and ornamental line, and we are adding such to our list as fast as their behavior proves beyond reasonable doubt that they are of value in the Mid-West. The list which follows, we believe, contains with but few exceptions, all the fruit, ornamental trees, plants and shrubs which can be recommended as of value in your section.

LOCATION—Our grounds are located on Iowa's open prairies where the winds have an unbroken sweep for twenty to twenty-five miles from the northwest, thoroughly testing the stock we grow to as severe exposure as they are likely to meet when given their permanent planting. (See why our stock is hardy, pages 5 & 12.)

PURITY OF STOCK—We use every precaution to keep our stock free from mixture, that everything we send out shall be true to name. If, however, by any error, the stock received should be found to be untrue to name, **we stand ready to replace such stock free of charge.**

PACKING—Incompetent packing or poor materials may mean loss in time, labor and money, to say nothing of disappointment. Our packing facilities are unsurpassed. We have a band of trained men, many of whom have been in the nursery business nearly all of their mature years, and we believe we are as well or better prepared to handle stock in a first class manner than any firm in the United States.

In our packing, we use only the very best of materials. Our packing-houses are large, covering approximately one and one-half acres. All our packing is done under cover where the stock is not exposed to the sun and wind, and we can promise our patrons that the stock will be put into the hands of the railroad companies in prime condition.

ERRORS—We take every precaution to get the goods to our customers in the best of condition. If on the arrival of the goods any mistake should be found in the filling of the order, our patrons are requested to notify us at once. If possible, return the shipping tag which accompanied the goods, with such notification and all errors will cheerfully be made right.

SHIPPING SEASON—Our shipping season usually opens in this section about the first of April and continues until some time in the month of May. **Please bear in mind** that the planting season is not regulated by the day of the month nor by the state of vegetation where the planting is to be done, but the proper season for planting

Our Assistance in Choosing, Selecting and Arranging IS FREE. Ask for it.

trees should be determined by the condition of the trees to be planted. **It is better that these trees be started a little.** Trees that have burst their buds will do better than those planted when perfectly dormant. It matters but little if the trees in the locality where the stock is being set are in full leaf; if the trees that are being planted are not started to any great extent, they will be none the worse for having been planted a little late. As a rule, we have found that deciduous trees, as well as evergreens, do better if planted after the ground has begun to warm up. Frequently the time for planting corn is the best time for planting trees.

How to Handle Trees and Plants Upon Arrival

See that they are not exposed to sun or wind for any greater length of time than is absolutely necessary. Get them into their permanent location at the earliest possible moment. **Do not unwrap them from the original package until you are ready to do this.** If it is absolutely necessary for them to lay over a day or so after receiving, do not unwrap the package, but see that the roots are moistened and that they are kept in a cool, shady place. If you find the package in a frozen condition or if received during freezing weather, **place the package in a cool place,** a damp, cool cellar is preferred where it is just above freezing, and allow them to remain there before opening the package, for a sufficient time to remove all of the frost. If these directions are followed, **freezing will not have injured your plants.** The essential thing is to draw the frost out very slowly, the same as nature would do it in the spring.

Preparation of Trees and Plants for Planting

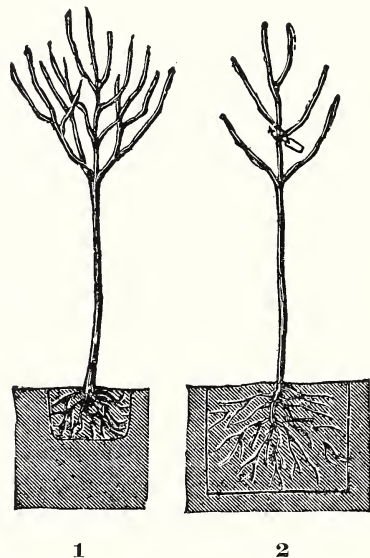
Generally speaking, all deciduous trees and plants (those that shed their leaves in the winter) should have the tops trimmed back about one-half of the last season's growth before planting. We know that the average planter hates to cut from six to twenty-four inches off from the top of a five-to six-foot fruit or shade tree when he transplants it. Thousands of trees are lost every year because this is not done. **A tree that has been so trimmed will, in two year's time, outstrip in size and height an untrimmed tree.** We sometimes feel that we should require our customers to so trim their trees or forfeit the replace guarantee. Impress the necessity of this trimming upon your customers. Trees and plants are like humans, having only a limited amount of vitality, and we can help them to retain this vitality by lessening the amount of top which the roots have to support until they have established themselves.

All broken or badly damaged roots should be removed and the tips of all heavy roots should be cut back at least a half inch just before transplanting.

General Transplanting Directions

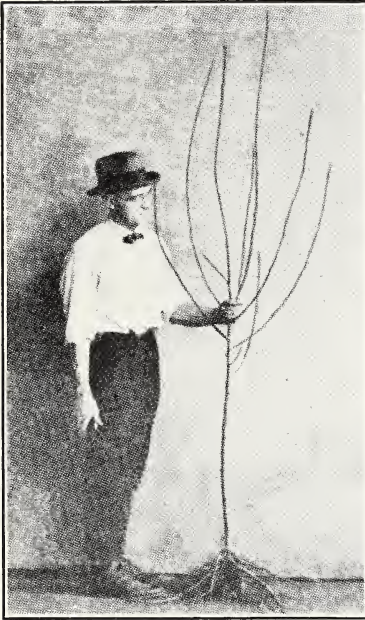
The important points in transplanting all trees and plants are, first; dig the hole to a size that will easily accommodate all of the roots of the plant without bending or crowding. Have the hole just deep enough so that the plant will set a little deeper than it did in the nursery. Place the plant in its location, sifting enough fine dirt in around the roots to cover them well. If large sized trees or plants, pack this earth firmly with the feet—if smaller sized plants, use the hands. Do not be afraid of packing the earth too firmly about the roots. Fill the hole with dirt to within about two to four inches of the top with loose soil. If soil is reasonably dry, a pail of water should be added at this time and allowed to soak away, then fill the hole with loose fine dirt, but do not pack it. See that this top earth is kept loose or well mulched until the tree has a good start. Water sufficiently to soak the ground to the bottom of the roots once a week, if weather is dry. It matters not whether surface mulch is used to retain this moisture or whether the surface of the ground is stirred at frequent intervals of a few days, so that the soil is kept fine and loose.

If trees are large and planted in exposed locations, such should be staked. If this is found necessary, the trunk should be wrapped at point of contact with stake or other fastening.



No. 1—The wrong way. No. 2—The right way to plant and trim a tree.

Plant a Balanced Collection for Best Results



No. 1



No. 2

PREPARING THE TREE FOR PLANTING

No. 1 is the tree as it comes from the nursery. To insure its growing and becoming a well shaped tree, it should be trimmed back as shown in picture No. 2 before planting. All bruised and injured roots should also be cut off.

The Orchard

Varieties—Location—Soil—Protection—Etc.

The choosing of varieties for any particular section should be given considerable thought and attention. For a home orchard, several varieties maturing at different seasons should be selected, using largely such sorts as you know have proven their value in your immediate section. If it is to be a commercial orchard, either for local trade or for car lot shipments, limit the number of varieties to three or four, as the added cost of handling many different varieties is prohibitive. Oftentimes certain varieties are of value only in restricted areas, due to climatic and soil conditions and proximity to large bodies of water which temper the climate in spring and fall. Every one of our salesmen should make himself familiar with the varieties that are giving best results in his territory. One good source of information is the planters about you who have succeeded.

Where to Plant An Orchard—The most important thing in selecting the location is good, well drained soil. If high land of this nature is available it should be used. A north-east slope is preferable. Such a location is not as subject to late frosts that will kill

the blossoms in the spring as is the lower land, and there is usually a circulation of air on the higher locations which many times saves a fruit crop from late frosts, while on the lower ground or in spots which are known as "air pockets", where there is practically no circulation of the air, the entire crop will be ruined by frost. The ground on the north slope is also a little slower in thawing out, slightly retarding the blossoming period. Also soil on such slope is not as apt to heave with severe changes of temperature, thus not as apt to cause root injury.

Soils—A light, sandy soil or a very heavy clay soil with rock close to the surface are not considered very good orchard sites. A deep, sandy loam with a good, porous sub-soil is the ideal for orchard trees although many orchards have been reasonably successful with good care on some of the poorer soils. In short, any soil that will raise good farm crops will usually be found well adapted to orchard purposes.

The Preparation of the Soil—For fruit trees the soil should be well drained, either naturally or made so by tiling, as they will

Good Apples Are Always in Demand

not live or thrive on a soil constantly saturated with stagnant moisture. It should also be well prepared. On new, fresh lands, manuring will be necessary; but on lands exhausted by cropping, fertilizers must be applied, either by turning in heavy crops of clover, or well-decomposed manure or compost. To insure a good growth of fruit trees, land should be in as good condition as for a crop of corn or potatoes.

Cultivation and Mulching—After setting of the trees, one of two practices must be followed until trees have become well established; either thorough cultivation or mulching and seeding down with a cover crop. Thorough cultivation, we believe, is the best practice if rapid growth and early bearing are an object. Trees protected with mulching or by a cover crop, such as clover or other legumes, will not make as rapid growth as if given frequent cultivation. Where cultivation is practiced, it should be frequent enough to keep the top soil well pulverized and free from cracks so as to retain the moisture. Cultivation in the Middle West should be discontinued after the first to the tenth of July as late cultivation will tend to keep the trees growing so late in the season that the wood will not harden up and be prepared for severe winter conditions. Immediately after the last cultivation a cover crop for winter protection such as oats or rye should be sown. This will hold the snow and help to keep the ground from heaving. Inter cropping or the use of small fruits, vegetables, or corn in the orchard the first few years may be practiced with satisfactory results if thorough cultivation is given. In such instances the tendency, however, is to take too much from the soil without returning a sufficient amount of fertilizer. Where clover or other legumes are planted in later years, such crops should be plowed under at least every third year, plowing as shallow as possible, thoroughly discing and reseeded the following spring. After orchard trees come into bearing, larger yields will be obtained on most soils by the use of barnyard manure spread under the trees to a depth of two to three inches. This should not be applied close to the body of the tree but well spread out under the branches. If left closer than two feet from the body of the tree, an excellent place is provided for rodents and insects, and injury by heating may also be caused to the body of the tree.

Pruning—The low branches on orchard trees should be encouraged, especially on the south side. A low branched tree is in every way to be preferred. The ground is shaded as well as the body of the tree; the fruit is more easily picked, and the limbs are not so liable to be broken by the wind. Eighteen inches from the ground is about the right distance for the lowest branches. For the home orchard, only such pruning should be given fruit trees as will allow a reasonable amount of light and sun into the trees when in full leaf so as to give good color to the fruit. Any branches that are crowding or rubbing should be removed, also any shoots

(sometimes called suckers) coming up from the ground at the base of the tree. Pruning is an extensive subject (see also page 74) and when considered from the commercial orchard standpoint, detailed information adapted to different varieties should be obtained from an authoritative source. We will be glad to put commercial orchard planters in touch with such information. Write the Horticultural Department of your State Agricultural College for bulletins on this subject.

Protection From Winds—Orchards in the prairie states should be protected from excessive wind. This will help to keep the soil from drying, will protect the trees against the heavy, cold winds in winter and the hot winds in summer. A crop of fruit at or near harvest has been saved in many an orchard by a good windbreak. Trees heavily laden with fruit are sometimes severely damaged when they do not have this protection. The windbreak for the orchard may be so arranged as to protect the buildings and stock on the farm. See article on windbreak, pages 26 to 32.

Number of Trees Required Per Acre—On account of ease in cultivation, spraying and care, most planters prefer setting trees in what is known as the rectangular system. See page 5 for number of trees or plants required for any given area.

How Far Apart to Plant—See page 5.

Spraying—See page 75 for spraying directions and formulas.

Directions for Wintering—When trees are delivered in the fall, for planting the following spring, select a dry place where water will be well drained off during the winter months; then dig a trench a little longer than the trees that are to be heeled-in, with the lower end about two feet deep. Dig the trench broad enough to contain the trees when spread in a single layer; then remove all packing material from about the trees and spread them out in the trench. When this is done, sift in fine dirt until all the open spaces are filled among the trees and roots and they are covered several inches deep, then tramp firmly and fill up the trench, mounding up the dirt so that the tops will be covered at least four inches deep and the roots about two feet. Care should be taken to remove all material from the trench and its vicinity which might serve as nests for mice.

How to Find Number of Trees or Plants Required for an Acre—There are 43,560 square feet in an acre. Divide this amount by the number of square feet allowed for each plant. This may be ascertained by multiplying the distance between the plants in the row by the distance between the rows; for instance, grapes planted 8 feet apart in the row by 10 feet between the rows—8 times 10 equals 80, the number of square feet required for each plant. 43,560 divided by 80 equals 544, the number of grape vines required for an acre. If the plot of ground to be devoted to any given variety of fruit is less than an acre, multiply its length by its breadth and divide your result by the number of square

feet required for each plant and your result will be the number of plants needed for that tract. A tract 209 feet on a side will equal an acre.

Suitable Distances for Planting

Apples	24 by 24	feet
Pears	18 to 20	"
Peaches	16 to 18	"
Cherries	15 to 18	"
Plums	16 to 20	"
Grapes	8 to 10	"
Hedges	12 to 18	inches
Currants	3 to 4	feet
Gooseberries	3 to 6	"
Raspberries, Red	3 by 4	"
Raspberries, Black	3 by 6	"
Blackberries and Dewberries..	3 by 6	"
Strawberries, rows	1 by 3 1/2	"
Asparagus	1 by 1 1/2	"
Rhubarb	3 by 6	"

To Destroy Mice, Etc.—The most effectual way of destroying these vermin is to poison them with strychnine. Dissolve an ounce of strychnine in five quarts of warm water. Then stir in four quarts of shelled corn. Let it soak for half an hour; then dry the corn

thoroughly. This will keep indefinitely. Place a handful in the various places frequented by the vermin. The corn should be kept in a can or tight box and plainly labeled "Poison". Another good way to poison rabbits is to put out sweet apples, cut in half, with a little arsenate of lead sprinkled on the cut surface. Cut the apple in two cross-wise, rub arsenate on the cut surface, put sticks into the ground in the runways and about a foot high, stick the apple onto the stick cut surface down. Burlap wrapping is also an effectual protection against the "cottontails". Mice do not move far in winter and so do their damage where given a place to harbor. For this reason mulching around trees, if it contains straw or other nesting material, should be removed for a foot from the tree, and a little earth mounded around the base; if place is badly infested, pack the snow around tree so they cannot harbor under the crust. When roses, peonies, and other tender and valuable shrubbery are covered for winter, it is well to scatter poisoned corn among them. Look your place over frequently during the winter and when you notice the work of the little marauders, go after them with the poison.



The King of Fruits

No garden is complete without apple trees. No other fruit can take the place of good apples as food. Growing children as well as grownups need plenty of fruit. The apple with its abundance of vitamins is ideal for satisfying in a healthful way that craving for something to eat between meals. "An apple a day keeps the doctor away."

The apple tree requires but little care and occupies but little space compared with what it produces. There was a time when it was said that apples could not be successfully grown in the Upper Mississippi Valley, but that day has long since passed. Successful orchards are to be found on every hand. Large and profitable commercial orchards in Iowa, Wisconsin, Nebraska, Minnesota and South Dakota yearly supply to the balance of the United States a quality of fruit that excels all others. The demand for it has never been satisfied.

For the last several years, the consumer has been paying at retail, approximately five to ten cents per pound for home grown apples. Fancy western apples at the peak of winter prices usually sell for \$3.00 to \$4.00 per box, containing about forty-five pounds

or about six to ten cents per pound. The Western grower with a freight charge of about \$1.00 per box on his apples, can not compete with home grown products if we properly grow and pick our fruit and pack it in an attractive manner.

The Mid-Western states can and are growing as good or better apples than any other section of the country. This is no idle statement but was proved in a convincing manner when Iowa apples won out over all competitors in exhibits of baskets, barrels and carlot displays at the International Fruit Show at Omaha.

Our apple trees are "Northern Grown". We mean by this that they are grown at Charles City, Iowa, where for four years they endure the trying weather conditions peculiar to Charles City which has been given the reputation with the Weather Bureau of being the "coldest spot on the map". See page 72.

The following experiment further explains the meaning of northern grown trees. This experiment was carried on at the Iowa Agricultural College. In 1924 they planted a block of one-year-old French Crab seedlings and another block of Vermont Crab seedlings

Apples Have Paid for Many a Farm

and still another of northern grown seedlings. These northern grown seedlings were gotten from seed of such varieties as Patten's Greening, Hybernal, Wealthy, etc. The following spring, that of 1925, all of these seedlings were cut down to within a few inches of the ground and they made a strong growth during the season of 1925. ALL of these seedlings, which had the same care, were caught in the terrible freeze of October, 1925, before the wood had ripened up for the season and they were unprepared for this extreme weather.

In the spring of 1926 these trees were examined after the growth had started and it was found that practically all the French Crab seedlings had been killed to the ground-line. The Vermont Crab stock was killed back about half way, while the trees from the northern grown seedlings came through

in excellent shape. Practically none of them showed killing back for more than three or four inches from the tip and some were entirely free from injury.

Our trees are grafted on seedling roots grown at Charles City from seed saved here at the nursery from such varieties as Duchess, Wealthy, Eastman and Patten Greening, all of which are among the most hardy varieties in this latitude. For this reason our trees are standing the test. They have no superior in hardiness, vigor and early bearing qualities. Many cases are on record where they have borne fruit the second year after set out.

The list of varieties given below includes only those that have been tried and tested in every possible way during a long period of years and have been found especially desirable for planting in the Northwest.

Summer Varieties

DUCHESS OF OLDENBURG—A large beautiful apple; roundish, streaked red and yellow; tender, juicy and pleasant. A kitchen apple of best quality, and esteemed by many for dessert. Tree very hardy, a fair grower, and a young and abundant bearer. Season, July to September.

RED JUNE—The first red apple to ripen in summer. The fruit is of variable size, ranging from small to large. Solid red in color. Flesh white, more or less tinged with pink. It is a splendid eating apple, and an excellent variety for the home orchard, as it ripens over a period of several weeks.



Block of 4-year-old Apple Trees on our grounds

Healthy Stock Will Adapt Itself to Soil and Climate

SUMMER PEAR—Having stood a most severe test of over thirty-three years, always doing credit to itself, we take pleasure in offering this delicious apple to our patrons. As hardy as the Duchess of Oldenburg; a heavy and early bearer; fine-grained, with a distinct pear flavor. Season, August.

TETOFISKY—Medium size, yellow ground, handsomely striped with red, and covered with a whitish bloom; juicy, sprightly acid and agreeable. A stocky grower; very hardy and productive. July and August.

Autumn Varieties

ANISIM—This, without doubt, is the most valuable of Russian apples. Tree bears very young and regularly enormous crops of beautiful fruit; is hardy, free from blight, of good quality. Fruit roundish, medium size, color greenish yellow, covered almost wholly with a heavy dark crimson bloom, thickly dotted with minute white specks; flesh greenish white, with green veins; flavor subacid, pleasant. Season early fall. The Anisim is a variety which has perhaps been better known as "Good Peasant". The tree is wonderfully productive and bears very young.

EASTMAN—A seedling of the Fameuse, or Snow, decidedly more hardy than its parent, in fact, in hardiness it can favorably be compared with Wealthy. It is now bearing 150 miles north and south, and 300 miles east and west of here and in all cases has received the highest praise from those fruiting it. As a market fruit, it fills a place where such an apple is in great demand, namely, just after the early and just previous to the late ones. Fruit large, fine colored, striped with red, hangs well to the tree; agreeably acid; very young, constant and heavy bearer. An excellent dessert and cooking apple; we unhesitatingly recommend it. Season, October to December.

FAMEUSE, or SNOW—A medium grower, rather spreading as an orchard tree; medium hardy, injuring badly in some sections, but has plenty of vitality, and will stand and bear many years after being badly injured. Fruit dark red, with flesh snow-white; one of the finest dessert apples. Season, from November to January.

HIBERNAL—One of the hardest apple trees known and adopted by many prominent horticulturists as a standard of hardiness. Tree vigorous, sturdy and a good early bearer. Fruit large to very large, greenish-yellow with dull bronze red on sunny side; flesh tart, juicy, very good for sauce, baking and jelly. This is one of the ironclads for sections of extreme cold and semi-arid climates. October to December.

IOWA BEAUTY—A seedling of Golden Russet. Tree a strong, vigorous grower, very hardy, and more beautiful in form than Whitney No. 20. Fruit nearly white, splashed and striped with red. This apple

YELLOW TRANSPARENT—Tree introduced from Russia by the United States Department of Agriculture. A good grower and an annual bearer; hardy, but in some sections subject to blight. Fruit medium in size, roundish conical in form; skin smooth, transparent, surface clear white becoming pale yellow when matured; flesh white, tender, fine-grained, juicy and subacid. This is one of the best of our early summer apples, and is recommended to those seeking an early variety.

is steadily growing in favor. August to October.

LONGFIELD—Mr. I. S. Freeborn, of Richmond County, Wisconsin, says: "It will bear a bushel of apples sooner than any tree that I ever planted." Medium hardy, fair size, yellow, red blush on sunny side. One of the best of the Russians in quality. September to October.

MAIDEN BLUSH—Fruit medium to large in size, very bright, attractive yellow skin, with a bright red cheek on the sunny side. The tree is a moderately large grower and good cropper.

OKABENA—Originated in Southwestern Minnesota. Claimed to be a seedling of the Duchess, fertilized by the Wealthy. Tree an annual bearer of good fruit; hardy. Large; yellow, striped and splashed with red; flavor subacid; very good. Ripens shortly after Duchess.

PEERLESS—Origin, Minnesota. Season, October to December. Fruit medium to large; yellowish green with stripes and splashes of carmine; flesh yellowish white, fine grained; flavor agreeable subacid but not rich. Tree vigorous, upright.

PETER—Originated at Excelsior, Minnesota, from seed of the famous Wealthy. In quality its equal, and in season from four to six weeks later. The tree is a strong, upright grower.

SNOW—(See Fameuse.)

WEALTHY—Originated near St. Paul, Minnesota. A vigorous-growing tree, very hardy and an abundant bearer. Fruit large, nearly red, subacid and of first quality. G. W. Wheaton, one of the oldest fruit-growers in Northern Iowa, said of this tree that if he were to plant a market orchard of 1,000 trees, he would plant 999 Wealthy, and when asked what the other would be, he said he would plant that Wealthy also. All things considered, it is a hard tree to beat. Season, early winter.

WOLF RIVER—A large, showy red apple of Wisconsin origin; a remarkably good market apple in some sections, but not quite hardy in Northern Iowa, except in favorable locations. October to December.

We're Listing the Most Popular Varieties

Winter Varieties

ARKANSAS BLACK—One of the most beautiful of apples. It is a good keeper and commands a good price in market. The color is a lively red, deepening on the exposed side to purplish red or nearly black. Flesh decidedly tinged with yellow, very firm; rather fine-grained; crisp, moderately juicy, subacid; good to very good. December to April or later.

BEN DAVIS—The great market apple of the West and South, largely planted also in the East. One of the best for profit in Southern sections. It is a splendid keeper, and fine for cooking. December to April.

BLACK BEN DAVIS—An apple of the Ben Davis type, but having fruits more nearly solid red in color. Trees somewhat more productive and resistant to diseases, and the fruit usually brings 25c to 50c more a bushel on the market.

DELICIOUS—The peer of all apples. Its fruit ranges in size from large to very large. It is conspicuous always because of the prominence of the five knobs or bumps at the blossom end, and the lovely red stripes and splashes that decorate the skin in a most pleasing and appealing way. There is something about the size, shape and coloring of this apple that makes a strong appeal to everyone. In addition it has a pronounced and delightful aroma and tender, juicy, creamy flesh of exquisite flavor. Delicious is all that its name implies. The tree is an excellent grower, productive and disease resistant. Delicious is an apple that should be in every home orchard, and it is doubtful if any other kind will make more money for the commercial grower in sections where it is particularly adapted, but this would not be true in the North. Not adapted for general planting north of Central Iowa, except in favored locations.

GANO—Originated in Missouri. Similar but superior to Ben Davis. It has all the good qualities in a higher degree, more brilliant coloring, runs more even in size and keeps fully as late. The tree is vigorous and hardy; is a rapid grower; bears while young; color bright red, without stripes or blotches and large and even in size. February to May.

GOLDEN RUSSETT—Medium size; dull russet, with a tinge of red on the exposed side; flesh greenish, crisp, juicy and highly flavored; a slender grower, with light-colored speckled shoots, by which it is easily known; hardy, and is extensively grown in Western New York and Wisconsin. November to April.

GRIMES' GOLDEN—Tree vigorous, upright, spreading, and a good annual bearer. It is considered the standard of excellence

throughout the West. Fruit medium size, regular, waxy golden yellow in color, flesh yellow, firm, compact, crisp, spicy, quality of the very best. December to March.

HARALSON—An early bearing variety; tree of medium size, vigorous, upright, hardy. Fruit medium to large in size, roundish, slightly flattened, well colored with solid red over the entire surface. Flesh fine grained, tender, juicy; excellent quality. Keeps in common storage until early spring.

IOWA BLUSH—Tree very productive, a strong grower in nursery and orchard. Fruit slightly roundish conical, yellow with bright mottled red blush, washed with bronze on the sunny side; flesh white, juicy, mild, subacid. Season early winter.

BRILLIANT—This is a splendid late keeping apple. Equal to the Wealthy in size and bearing qualities but harder in growth and better in color. Its brilliant color and high flavor makes it in great demand in the apple markets where it has sold for \$7.00 per barrel when such apples as Grimes' Golden and Tallman Sweet were being offered for \$4.50. Flesh fine grained white and tender. The fruit hangs late on the trees. Season January to May.

JONATHAN—This variety is probably better known to average consumers of dessert apples than any other variety. It is recognized on all markets of the country as one of the best among the few leaders of high quality eating apples. The fact that its qualities and flavor are also superior and outstanding when used for culinary purposes adds to its popularity. The fruit is medium size, red and beautiful. The tree is slightly slow of growth when young, but grows stronger as it attains age. It bears young and abundantly. It is quite hardy and thrives in all of the Central West except in the drier portions of the northwest part. Season November to February. Would not recommend this north of Iowa.

KING DAVID—This is a red apple of striking appearance, being colored somewhat like Jonathan but with darker red in deeply colored specimens. The fruit is of very snappy flavor. Productive.

McINTOSH RED—This apple is adapted to a wide range of localities, having been first raised in Canada, but now being successfully raised all over the North and Northwest. The fruit is very attractive in appearance, of a bright deep red color, blotched and streaked with white and of good size. The flesh is very tender, perfumed and delicious. The tree is a vigorous grower and very hardy. Season, October to late winter. The fruit demands the highest price of any of the commercial sorts.

Brilliant, Silas Wilson and Summer Pear—All Winners

McMAHON—A very large, white fall and winter apple of Wisconsin origin. Tree a vigorous grower and very hardy.

MALINDA—A very hardy variety, and popular in the colder parts of the Northwest. Skin rich yellow with dull red blush. Juicy, mild, subacid.

ARKANSAS (MAMMOTH BLACK TWIG)—The fruit is of large size, and the mature trees conspicuous because of the very dark color of the bark on the twigs and branches. It is an important commercial variety in the Middle West, yielding well and commanding good prices. It is closely related to Winesap, with fruit of larger size and a deeper red skin. The trees bear heavily.

NEWELL'S WINTER—Originated in Wisconsin about 60 miles north of Madison. It is a seedling of the Perry Russet. The fruit is large, roundish oblate, and of a rich yellow color; flesh firm, juicy, yellowish, rich, sprightly and subacid. This apple is one that will rate A No. 1 with any of the Eastern apples. It is a fruit that will keep all winter. Tree hardy and free from blight.

NORTHWESTERN GREENING—Origin, Wisconsin. Season, December to June. Tree a splendid, vigorous grower. Fruit large to very large; green, becoming yellowish green when ripe; flesh yellow, firm; flavor a good subacid; very smooth and attractive.

PATTEN'S GREENING—This variety originated from seed of the Duchess of Oldenburg. As a nursery tree it grows very crooked, but makes a fine spreading orchard tree; it is a better bearer than the Duchess and quite as hardy; fruit about the same shape and much larger, but green in color; a fair eating and an excellent cooking apple. Season, November to January.

BALL'S JANET (or Geniton)—Medium; has mixed and striped crimson on yellow and green; flavor is mild, vinous and refreshing. Popular as a home fruit. The blossoms appear later than any other sort, and thus they sometimes escape spring frosts. February to April.

ROMAN STEM—A slender growing tree and one of the hardiest winter apples of first quality that can be grown in this section. Fruit of medium size, whitish yellow, sprinkled with russet; flesh tender, juicy, rich; a very fine dessert apple. Season, January to May.

ROME BEAUTY—Of the large, round, red apples this is one of the best. The fruit is of handsome appearance, and runs well to large sizes. Flesh firm, moderately fine grained, juicy, mild, pleasant flavor, and excellent for eating. The tree is of erect habit and produces heavily. As a market fruit, Rome Beauty is very popular, and for home use it has few superiors.

SALOME—A vigorous, upright grower in the nursery; in the orchard it becomes large. Fruit uniform in size and shape. Flesh firm, crisp, tender and juicy. Season, November to March.

SILAS WILSON—A seedling of the Jonathan originated by the late C. G. Patten. It resembles the Jonathan in shape, size and color, but is much hardier, coming through 40 degrees below zero without injuring. A good bearer, fruit hangs well on the tree. A splendid keeper.

STAYMAN'S WINESAP—The best variety of Winesap for general cultivation. The tree comes into bearing young and is a reliable annual cropper. Very attractive in appearance, being of a reddish cast with splotches of yellow. Fruit large and shapely. Flesh very juicy, pleasant subacid. Season, December to May.

TOLMAN SWEET—Medium, pale whitish yellow; flesh white, fine grained; very hardy and productive. The best winter sweet apple for home and market. November to March.

UNIVERSITY—Originated in 1881, a seedling of Perry Russet and as large as Patten's Greening. A rich golden yellow when ripe. Has been highly recommended by leading horticulturists in Minnesota. Absolutely hardy; a young, constant and prolific bearer. Tree a beautiful spreading grower; one of the most magnificent of the apple trees. October to January.

WILLOW TWIG—This apple is deserving of more extensive planting as a commercial variety. It is heavily productive and the fruit runs well in size. Skin yellow, striped lightly with red; flesh fine grained and of fine flavor. A good shipper and holds up well in storage.

WINESAP—An old variety, supposed to have originated in New Jersey. Tree moderately vigorous, with rather open spreading habit, very productive and an early bearer. Fruit rather above the medium size, rich yellow color, mostly covered with fine lively dark red, sometimes slightly striped; flesh yellow, firm, fine-grained, rich subacid. This variety is very popular throughout the South and West, but is not hardy enough for this latitude, except in sheltered situations, where it is protected from extremes of weather. Season, December to May.

YORK IMPERIAL—For Middle Western conditions, this is an important commercial apple, always finding a ready market and good prices. The fruit often is of irregular shape, lopsided or oblique. The skin is heavily mottled with light red; flesh firm, fine grained and juicy. In productiveness, this apple is one of the best, yielding crops with regularity.

Crab Apples

HOPA (Red Flowering Crab)—A beautiful ornamental tree for the front lawn on account of its profusion of deep rose crimson blossoms. When in bloom it presents a striking sight. The fruit is rather small, about an inch in diameter and bright red, borne in clusters, making it a thing of beauty. The fruit is not likely to be disturbed by boys as it is rather bitter, but makes a bright colored, highly flavored jelly. Perfectly hardy.

HYSLOP—A very late-keeping, dark red Crab of large size; tree an abundant bearer, vigorous grower and perfectly hardy. Season, November to April.

MINNESOTA—Season, October to January. One of the most desirable. Fruit large, light yellow, often splashed or mottled with blush on sunny side when allowed to fully ripen; flesh creamy white, fine grained, juicy; mild subacid, aromatic.

SOULARD—This is supposed to be a hybrid with our native wild Crab, *Pyrus Coronaria*, or possibly a sport from the wild Crab. It is about the size of Fameuse or Snow Apple. Light yellowish green in color and keeps until spring. Its chief value is for preserves, and it is valued by many as highly as the quince for this purpose. The tree

is a strong, vigorous grower, and very hardy. Bears well.

STRAWBERRY—Fruit medium, highly colored, exceedingly tender, mild acid, fine eating or cooking; tree hardy, fine grower.

SWEET RUSSET—Very large hybrid; extremely hardy. Fruit oblong, conical, light russet, very rich and sweet. One of the best either for eating or cooking. August and September.

TRANSCENDENT—A vigorous grower and abundant bearer, but blights badly. Fruit medium size. Season, early August.

VIRGINIA—Size of Transcendent; a month later; light red, sprightly, juicy, crisp. A great bearer; fine market sort. Valuable tree on which to topwork large apples.

WHITNEY NO. 20—A beautiful upright growing tree, and one which bears young and abundantly. Fruit of good size, conical in shape, red and yellow striped; flesh crisp, subacid, and very fine eating; no Crab taste whatever. It is really a small apple and should be classed as such. Season, September.

YELLOW SIBERIAN—Size, medium to small, good quality; tree hardy. Good for pickling.

Peaches

Next to apples, peaches are more relished and used for a greater variety of purposes than most other fruits. In the dooryard, the peach tree is decorative at all seasons, and especially in spring, when laden with its bower of lovely pink blossoms. What is more enjoyable in summer than to eat your fill of luscious peaches from your own trees. For the commercial grower, peaches produce fortunes, a well cared for peach orchard is a veritable mint for coining money.

PEACH CULTURE

The directions given under apple orchards will answer also for peaches. Peaches are not recommended for planting in the Mississippi Valley north of the latitude of Des Moines, Iowa, unless given winter protection.

ALEXANDER—Medium to large size; free-stone; greenish white, nearly covered with deep, rich red; flesh melting, juicy, sweet. The tree is vigorous and productive; ripens two weeks before Hale's Early. This is one of the largest and best of the extra-early varieties. It is very valuable for market as well as for home use.

BOKARA—Twenty-eight degrees below zero and a crop. One of the hardiest peaches yet brought out. Seed was imported from Bokara, Asia, by American missionaries. The report of the Iowa exhibit at Chicago

has this paragraph by Professor Hansen: "In the Iowa exhibit were shown a number of plates of new Bokara Peaches. One measured 7 inches in circumference. It did not rot easily, being inclined to shrivel rather than to rot. I saw one plate in good condition September 26th, which had been exhibited at the Iowa State Fair the first week in September." Fruit yellow, with red cheek, skin tough, flesh good quality. A perfect freestone.

CHAMPION—A large, handsome early variety, creamy white, with red cheek, sweet, rich and juicy. Hardy and productive. August.

COOLIDGE'S FAVORITE—A most beautiful and excellent peach, of medium size; skin white, delicately mottled with red; flesh pale, juicy and rich. Tree vigorous, hardy, and productive. A valuable variety. End of August.

CRAWFORD'S EARLY—A magnificent, large, yellow Peach of good quality. Its size and beauty make it one of the most popular orchard varieties. Fore part of September.

CRAWFORD'S LATE—Very large, roundish; skin yellow, with a beautiful dark red cheek; flesh rich, yellow, melting, with sweet luscious flavor; worthy of universal

Who Ever Refused a Peach?

cultivation as table and market sort. Latter part of September.

CROSBY—Originated at Billerica, Massachusetts, about 1875, and recently brought to general notice on account of its extreme hardiness, bearing full crops of choice, attractive fruit when all other sorts have been blasted by frost. The fruit is of medium size, roundish, slightly flattened, with a distinct seam, bright orange-yellow, streaked with red on the sunny side; flesh yellow, of a mild, pleasant flavor. Tree of low, spreading growth, similar to Hill's Chili. Very valuable for general cultivation.

ELBERTA—Originated in Georgia, and is being planted most largely in the South,

where it is regarded as the best market variety. Fruit large, freestone, yellow, with red cheek; flesh yellow, firm, juicy, fine quality. Tree very hardy and exceedingly productive. It is equally valuable in the North, and is one of the best general sorts for all sections. Exceptionally large and fine. Fore part of September.

J. H. HALE—Fruit similar to Elberta, but more nearly round and almost entirely free from fuzz. Flesh finer grained, of better flavor and a perfect freestone. Tree a good grower, productive. One of the best varieties for the home orchard and a promising commercial variety. Season, fore part of September.

Pears

The melting, juicy texture, the refined flavor and the delicate aroma of the Pear give it rank above all other fruits, excepting the grape. One of the most important points about the management of Pears should be gathering at the proper time. Summer Pears should be gathered at least ten days before they are ripe, and autumn Pears at least two weeks. Winter varieties may hang until the leaves begin to fall, then place in a cool cellar. When the Pear trees are heavily laden the fruit should be thinned when about one-third grown, else it will be poor and the tree injured.

PEAR CULTURE

The directions for caring for Apple orchards will in general answer for Pears also. We do not recommend the planting of Pears north of Northern Iowa with the exception of the Patten Pear which may be safely planted as far north as the latitude of St. Paul, Minn. Pears do best on well drained clay soil. We list below only the few varieties that have proven of value in the northern part of the Mississippi Valley.

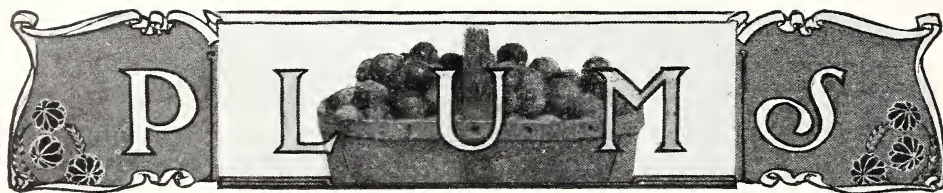
BARTLETT—This pear is more extensively grown for home use and for market than any other kind. The fruit is of distinct "pear shape", sweet, very juicy, tender and of excellent flavor. The skin is clear, golden yellow, with a red cheek. The trees are good growers and good bearers. The fruit is of much better quality if gathered a few days before it ripens, and is let ripen in a cool cellar.

FLEMISH BEAUTY—A large, beautiful, melting, sweet pear. Tree very hardy, vigorous and fruitful; succeeds well in most parts of the country. September and October.

KIEFFER (Kieffer's Hybrid)—Said to have been raised from seed of the Chinese Sand Pear, accidentally crossed with Bartlett or some other kind. Large; skin rich golden yellow, sprinkled thickly with small dots, and often tinged with red on one side; flesh coarse, juicy, melting, with a pronounced quince flavor. Tree very vigorous, and an early and great bearer. October to January.

PATTEN PEAR—"This pear was originated by C. G. Patten and named by the Iowa Agricultural Experiment Station. It is a cross-bred seedling of Orel and Anjou. The former is an extremely hardy, blight resistant Russian Pear, while Anjou is one of the highest in quality of our commercial sorts. Growing on the State Fruit Breeding Farm at Charles City, the Patten Pear has been quite regularly productive, sometimes over-productive. Fruit hangs well, good size and attractive. Not rivaled in quality by any other pear grown north of Central Iowa. Color, green with reddish blush. Flesh, very tender, very juicy, sweet and rich. It is ready for use last of September and October. The tree is an upright, vigorous grower, blight resistant, and is entirely hardy in Northern Iowa."

SECKEL—In its resistance to disease and regularity of bearing, Seckel is of outstanding merit. The fruits are small and not attractively colored, but possessed of a delicacy of flesh and delicious flavor that more than offsets the lack in size and coloring. Seckel is a splendid pear for home use and local market.



There are three principal types of plum, named after their native lands—American, European and Japanese.

Many of the plums suited for the Northwest are "Hybrids", that is, a cross between two or more of the principal varieties, generally combining the hardiness and vigor of the American type with the size and quality of the European or Japanese. We are listing below, only those varieties that have been found after years of trial, to be of outstanding value in the Northwest, giving after the name of the variety, the type, whether American, European, Japanese or Hybrid and if a hybrid, the character of the cross.

There is no class of fruit that is more productive than the plum; in fact, the tendency in many varieties is to overbear and unless this tendency is guarded against by judicious thinning while the fruit is small the result will be small, poor quality fruit and possibly the death of the tree itself. Heavy pruning of plum trees tends to reduce the overbearing of small sized fruit.

There is big money in raising plums. They are easy to raise and easy to take care of. Every year, there are hundreds of carloads of California and Oregon plums shipped in to the Middle Western states. These hundreds of carloads of foreign plums find a ready market at high prices. Why? Because there is a large demand for big plums and little of this kind is being produced here at home.

Still—do you know that we can raise better plums right here at home than any that ever grew in California or Oregon?

Do you know that such plums as Loring Prize, Waneta, The Patten Plum, and several others are equal in size and are much better in quality than the best plums that were ever shipped in?

It is no unusual thing for plum trees grown by us to bear fruit the second year they are set out.

If the farmers and fruit growers of California or Oregon can raise plums, pack them in fancy packages, pay the freight on them out here, 1500 miles, pay commissions to two or three middlemen and still make a profit, how much profit can be made raising a better plum right here at home and selling them at the same price with no freight or commissions to pay.

If the housewives of the Middle West could get all they wanted of such high quality plums as Loring Prize, Waneta, or Patten Plum, the California and Oregon plums would have to go somewhere else for a market.

Now is the time to get into the business of

growing high class plums for market. The demand for these plums will exceed any possible supply for years to come. The man who starts at once is sure to reap big returns on his investment.

Eighty trees set sixteen feet apart will plant a half acre or eight rows of trees ten trees to a row. In order to insure perfect pollenization, we recommend that the trees be planted one row, say of Loring Prize and then one of Waneta or Patten Plum, rather than four rows of one variety and then four of another. This half acre does not need to be your very best land. A hillside or a corner that you can't get to very handily and is now growing up to weeds may be just the place to start the plum orchard and if properly cared for, it may very easily produce more than you are now getting off your best forty.

Our plums are all grafted or "worked" on the roots of seedlings of wild plums that we have raised from plum pits gathered in the North. Using this hardy stock makes our plum trees extremely hardy. It might be well to explain that all plum trees are not grafted on wild plum roots, most of them are not. The common practice, especially in the East and South, is to graft or bud plums on peach roots or on "Myrobalen" roots, that is, on the roots of the wild plum of Southern France. Such roots of course are tender and will not stand the severe cold of our northern winters.

CULTURE

The enemy of plum trees that give the most trouble and is the most common is Aphis or plant lice. These insects attack the tender new leaves at the tip of the twigs as soon as they appear, particularly the first spring after the tree is planted (after the trees are established, the Aphis give little trouble). Aphis are easily controlled by spraying the trees with Black Leaf 40, using a little hand sprayer. (See directions for mixing Black Leaf 40, Spraying Calendar on page 75.)

In planting plum trees it is important that they be planted in groups, a plum tree planted all by itself seldom does well as some sorts do not fertilize their own blossoms and require pollen from nearby trees to make them fruitful.

ABUNDANCE (Japanese)—Large to very large, oblong, amber, nearly covered with bright red and overspread with a thick bloom; flesh orange-yellow, juicy, melting, and of delicious sweetness; stone small and flesh readily parts from it. Tree strong grower and an early and profuse bearer. Ripens in advance of other plums. Valuable for canning and market. This variety

Oh the Joy of Good Plums!

has attracted much attention throughout the country and is very highly recommended.

BURBANK (Japanese)—It is claimed by many that the Burbank Plum stands at the head of the celebrated Japanese varieties. It is proving remarkably successful. No other plum ever became so popular in so short a time. Ripens in August. Abundantly early bearer. Fruit large, roundish, dark red, with thin lilac bloom; flesh amber-yellow, melting, juicy, with rich sugary flavor; stone small and free. Bears very young.

CHENEY (American)—A strong upright-growing tree, very hardy, and one of the very best varieties for the extreme North. Fruit large, of fair quality. Tree an early and abundant bearer.

BLUE DAMSON (European)—Old favorite for preserves in spite of its small size. Fruit black, overspread with a heavy bloom. Surpasses any of its kind in productiveness. Has no value except for preserving, and for that it has no equal.

DE SOTO (American)—Tree perfectly hardy, a regular and abundant bearer; fruit medium size and of fine quality; color light red; ripens very early. This tree is liable to overbear, and, if very heavily loaded, fruit should be thinned.

FOREST GARDEN (American) — Hardy; bears profusely; one of the earliest plums; large, being 1 to 1½ inches in diameter; oblong, color mottled red and yellow; skin thin; juicy, sweet and rich. Ripens from August 1 to 25.

GERMAN PRUNE (European)—One of the most luscious to eat out of the hand. Fruit almost as large as an egg; dark blue. An excellent variety for home growing, and a standard commercial sort. Tree not very hardy here.

HANSKA (Hybrid)—This is a cross between the native plum and the fine, fragrant Apricot Plum of China. The fruit is splendid for eating out of the hand, and when cooked retains the apricot flavor. The fruit is about 1½ inches in diameter. The color of the fruit when ripe is bright red, with a heavy blue bloom; flesh firm, yellow, good quality and very fragrant. It begins to bear the second year and ripens the first week in September. Its value for preserves will make it popular and desirable everywhere.

HAWKEYE (American)—One of the best; large, color, light mottled red, superior quality, firm; carries well to market. Tree hardy, thrifty, annual bearer. A splendid fertilizer. (See item about fertilizer under "Culture", Page 12.) Ripens in September.

KAGA (Hybrid)—A cross between the wild plum and the famous Chinese Apricot Plum. The fruit is large, somewhat oblong, dark

red in color; flesh firm, fine eating out of the hand and fine for cooking or canning, as it retains the apricot flavor.

KAHINTA (Hybrid)—A cross between Burbank's Apple Plum and the Terry. It is a good fruiter and hardy throughout the North. Fruit large, 1¾ to 2 inches in diameter; color red, flesh firm, with small pit, and delicious flavor.

LORING PRIZE (Hybrid)—To encourage and stimulate the growing of plums and create a finer quality of fruit, the Hon. C. M. Loring offered a prize for a plum that would meet certain requirements, including size, shape, color, flavor, smallness of pit, firmness and texture of flesh, together with general good characteristics of the tree. Such a plum was originated at Lonsdale, Minnesota, a few years ago, and is now known as the Loring Prize Plum, which, in spite of all competitors, received the unanimous award of the committee. It is the largest and best plum for the northern planter today. It is a splendid fruit, good for canning, delicious to eat, has a small pit, is of a bright, attractive color. The seed was the Burbank crossed with the DeSoto or Weaver Plum. The size is from 1¾ to 2¾ inches in diameter. It is slightly oblong, of bright color, fleshy like the Burbank and nearly freestone, delicious in sweetness and mild in acidity. Superior to the large red California Plum that we see in the fruit stores.

PATTEN PLUM (American)—One of the largest and best of all the hardy American Plums. It was originated by C. G. Patten and later named by the Iowa Agricultural Experiment Station. The original tree, though twenty years or more old, is still productive and in good condition. The Patten Plum is one of the hardiest among American Plums, healthy, of good spreading habit, sets up a well distributed load of fruit and is not prone to overloading, a fault so generally found with many other American varieties. The Patten blooms a week later than the Japan Hybrids and later than most of the American Plums, thus generally escaping late frosts. The fruit is uniformly large, roundish, bright red with bluish bloom, firm of flesh, yet tender, very juicy, becoming rich, sweet, sub-acid if ripened on the tree. Season, mid-September. The Patten Plum does not have a rival for planting in Northern Iowa and north.

PATTEN XX PLUM (American)—Here is another fine plum, worthy of a place in every orchard. Unusually productive, with fruit of medium size, roundish, bright to deep red with bluish bloom. The flesh is yellow, juicy, sweet and very good quality. Season, about September 1.

SURPRISE (American)—A variety introduced at Sleepy Eye, Minnesota. Tree a beautiful, symmetrical grower, with fine foliage; meaty, fine flavor, very large and red,

Loring Prize, Patten and Waneta Plums Are the Favorites

with many light dots on the skin, hangs well to the tree, a good bearer and a good keeper; fine for culinary purposes.

TERRY (American)—This plum has also been known as "Free Silver." Fruit round, red, of medium size; flesh yellow, firm and of fine flavor.

WANETA (Hybrid)—This magnificent plum, originated by Prof. N. E. Hansen, gives to northern fruit growers an opportunity to compete with California in the production of large, finely flavored and colored plums for market. The tree is a very fast grower, producing the largest and what is believed to be the best of the Hansen Hybrids. That means that it is the best in tree and in fruitfulness of any plum grown at this time in this part of the country. The fruit of Waneta often is as much as 2 inches in diameter; bright red in color; of delicious quality; a long keeper and splendid shipper.

WICKSON (European)—Originated by Burbank. A sturdy, upright grower. Fruit remarkably handsome, deep maroon-red, covered with white bloom; stone small; flesh fine texture, firm, sugary and delicious. Excellent keeper and shipper; will keep two weeks after ripening.

WOLF (American)—Tree vigorous and hardy. Fruit of good size and fair quality for eating from hand, and hard to equal for cooking purposes.

WYANT (American)—Tree a spreading grower, fine foliage, very prolific. Fruit medium to large, slightly oblong and distinctly flattened; purplish red in color, inclined to orange on the shady side; skin thick, flesh rich yellow. This variety is reported by Professor Goff as one of the most productive at the Wisconsin Experiment Station.

YELLOW EGG (European)—A very large and beautiful egg-shaped yellow plum. Excellent for cooking. Tree a free grower and good producer. End of August.



PATTEN PLUM (Natural Size)

Don't Let Plums Bear Too Heavy—Thin the Fruit

Plum Cherry Hybrids

The varieties described below are crosses between the Wild Sand Cherry of the West and some standard plum. Many of them have been introduced by Prof. N. E. Hansen of the South Dakota State Experiment Station.

The trees generally show their Sand Cherry origin by early bearing, and rather dwarfish growth. All are tremendous bearers of good size to large fruit.

It is not uncommon for Plum Cherry Hybrids to bear fruit the year after they are set out. They are all absolutely hardy.

Care—Plum Cherries, especially the Hansen Hybrids, require spraying just before the blossoms open, to destroy any tendency to fungus growth. See Spraying Calendar on page 75.)

COMPASS—Originated in Minnesota. A cross between the Miner Plum and the Sand Cherry. Fruit a little larger than a medium cherry; color red; round; skin moderately thick; flesh, firm, juicy, coarse; stone medium; flavor sub-acid; quality good; good bearer; very hardy; leaves resemble the Sand Cherry, as does the twig and the color of the bark. It is at present being widely distributed by the nurserymen. Of value in sections of the Northwest. Plum type in general appearance, but in quality of fruit resembles the cherry. Season, July.

OPATA—One year trees set fruit buds freely. Heavy trees transplanted will bear the next year. This variety is a cross between the Sand Cherry and the Gold Plum, a very large plum for which \$3,000 was paid when first introduced. The tree resembles the plum in habit of growth. The fruit is 1 inch or more in diameter; small pit. It is a dark purplish red, with blue bloom; flesh is green and firm; flavor pleasant, partaking of the rich sweetness of the Gold Plum. It is excellent for eating out of the hand, as well as for table and cooking purposes.

Ripens as early as the first week in August. This is greatly in its favor, as at that season there is very little fruit of any kind. Tree hardy and a great bearer, making it popular wherever planted.

SAPA—Introduced in 1908. Fruit has a glossy, dark purple, thin skin; rich, dark purple flesh of the Sultan Plum. On account of its fine flavor and rich coloring, Sapa has headed the list of Hansen Hybrid Plums in popularity. Makes the most delicious, rich, sweet, deep wine colored sauce. It is a wonderfully early and prolific bearer, the fruit being set along the branches as thickly as gooseberries. The trees often bear in the nursery rows, and three year trees have produced as much as a bushel of fruit to the tree. Tree is spreading and handsome in appearance.

SANSOTA—Resembles the Sapa both in tree and fruit. The size of the fruit is about 1½ inches in diameter. Coloring shining black when fully ripe, with heavy bloom; flesh cling; yellowish green; sprightly, pleasant; skin thin and free from acidity; pit small.

ZUMBRO CHERRY—Originated in Minnesota. This variety is extremely hardy and suitable for planting where other varieties of cherries will not thrive. This plum-cherry ripens in August. Fruit is borne on the previous year's wood; color, very dark, nearly black when ripe; flesh firm, sometimes tinged with red when fully mature, especially recommended for sauce and preserves. The tree is a low grower and rather on the dwarf order. This adapts it for planting in small corners of your garden or orchard. It has early bearing and extremely productive habits. Trees set out in the spring bear heavy crops the following year.

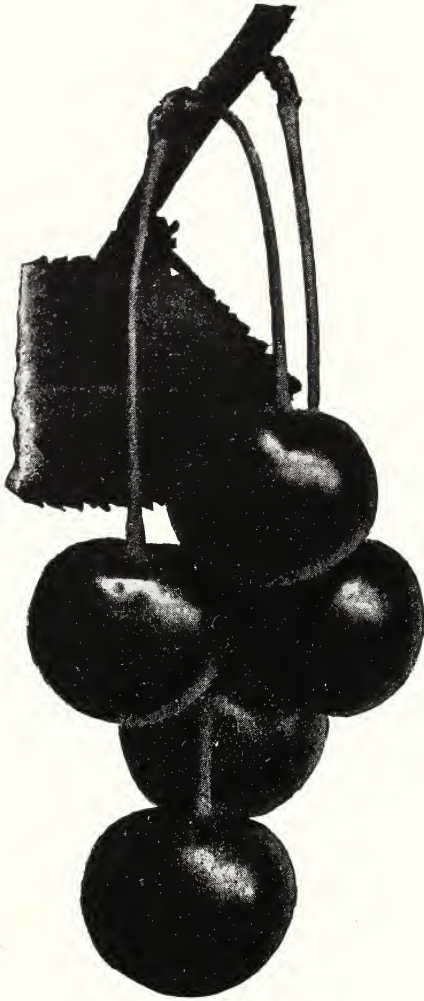


No fruit hardy in the Northwest is receiving more attention at this time than the sour cherry. In some parts of Wisconsin, growers have had returns of from \$800.00 to \$1,000.00 an acre. Cherry trees properly cared for, bear young. It is not uncommon for an orchard three years after planting to yield enough fruit to pay for the cost of the trees, planting and cultivating up to that time. The cherry tree is the ideal tree for planting in the dooryard. It is free from insect pests to a greater degree than any other fruit tree and

when in bloom it is one of the most beautiful of all trees. We are listing only those that have been found of exceptional value in quality and hardiness. The sweet cherry should not be planted north of the latitude of Des Moines, Iowa.

BLACK TARTARIAN—A sweet cherry. Very large, bright purple, glossy black; juicy, rich and fine. Tree a rapid, vigorous, upright grower and great bearer. Very popular. Ripens last of June and early July.

Plum Cherry Hybrids Fruit Well in Dry-Cold Climates

**EARLY RICHMOND**

COMPASS CHERRY—(See Plum Cherry Hybrids, page 15.)

EARLY RICHMOND—The standard early red sour cherry. Fruit bright red, very juicy, snappy flavor; relished for home or market. As a pie cherry, Early Richmond and Montmorency are preferred by canning factories everywhere. In tree, Early Richmond grows large, and is hardy in wood and bud; producing abundantly. An ideal variety for home or market.

ENGLISH MORELLO—One of the best late, sour cherries. Tree rather dwarf in habit, but enormously productive. Fruit of large size, almost black, meaty, sharply but deliciously acid. Excellent for market or home.

LARGE MONTMORENCY—The best mid-season cherry, and of large commercial importance. Its fruits are large, deep cherry red, very tender and juicy. It ripens at the close of the Early Richmond season, and is of better size than that variety; more meaty and of richer flavor. It is a favorite of children; an excellent shipper and in big demand by canning factories. The tree grows more erect than the Early Richmond and is very productive.

OSTHEIM—A tree said to be of Russian origin; very hardy, having stood the test well up into Minnesota. Fruit of good size, very dark red, acid.

ROYAL ANN (Napoleon Bigarreau)—A magnificent sweet cherry of the largest size; pale yellow, becoming amber in the shade, richly dotted and spotted with deep red, and with a bright red cheek; flesh very firm, juicy and sweet; tree, rapid grower and immense bearer. The most popular all-around cherry for canning, preserving and shipping. Late June.

WRAGG — Large, roundish, heart-shaped; dark crimson and when fully ripe, black or nearly so; flesh and juice light crimson, firm and good, very productive; one of the hardiest and is usually a sure cropper.

ZUMBRO CHERRY—(See Plum Cherry Hybrids, page 15.)

Grapes

Grapes are only just coming into the popular favor that their good qualities merit. Grapes do well anywhere on rich soil or on poor; on level prairie or on stony hillside; in vineyards or trailing over the backyard fence.

A few vines suffice for a family and these may be trained over an arbor or used as a vine to cover the veranda. No fruiting plant rewards the grower more liberally than grapes; literally bushels of fruit may be picked from a few vines. Ground too hilly or stony for other purposes yield splendid crops of grapes.

We list below grapes for all tastes and purposes. Having in mind only those that have

been proven of especial value in the Northwest.

HOW TO START A VINEYARD

Plant in rows north and south, eight feet apart each way, in soil that is well drained, trim off the tops of the vine to one straight cane, plant in a slanting hole inclining the vine in the direction in which it is intended to be trained upon the trellis. In this position it can be laid down more easily for winter protection.

Cultivate thoroughly and grow the first season without restraint. In the fall prune off all branches and side shoots and cut the main stem back to within a foot of the ground.

There Are Never Too Many Cherries

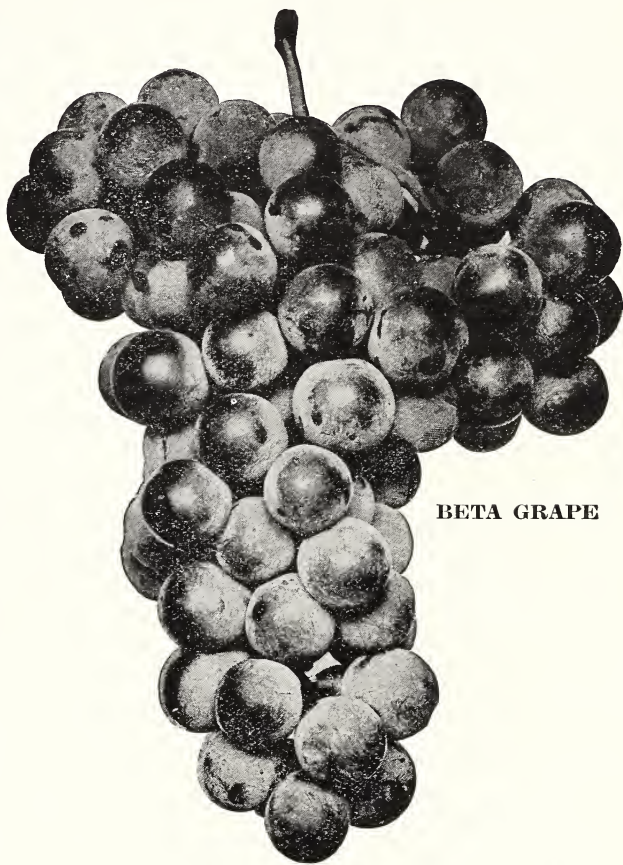
Press the cane to the ground and cover it with four or five inches of soil, and before cold weather sets in cover with a mulch of straw or coarse manure.

The following spring a stake six feet long should be set close to each vine. Permit only one bud to grow, and that the strongest. Keep all the others rubbed off while small. Tie this growing cane to the stake and when it reaches the top pinch off the end. The laterals or branches should also be pinched off when they have reached the second leaf. The second fall cut off all the laterals to the cane and cut the cane back to four feet. The vine may now be buried as for the previous fall.

It will be found convenient to take out a little earth close to the vine on the side toward which it is to be bent. The following or third spring a trellis should be built. Set posts 12 feet apart on which to fasten four wires, using No. 12 galvanized iron, the lowest one ten inches from the ground; and those above ten inches apart. They should be fastened with staples so as to allow the wires free play.

Along the lower wire of the trellis the vine should be tied. Two shoots will grow from nearly every bud. Thin these out, leaving the strongest ones at a distance of ten inches apart. When they have reached the top wire pinch off the end. Also keep the laterals pinched back, leaving one new leaf at each pinching. In pruning the third fall select the strongest cane near the extremity of the vine that was tied in the spring to the lower wire, and cut it off at a length to reach the next vine on the trellis. This cane must be tied to the lower wire the next spring and will complete the permanent vine. In pruning do not cut within an inch of the bud. Bury as directed and subsequent treatment will be the same as previously described. The fourth fall the vine will consist of a main arm extending along the lower wire to the next vine with spurs of two buds each ten inches apart.

AGAWAM (Rogers' No. 15)—One of the most reliable of the hybrid grapes. Bunches

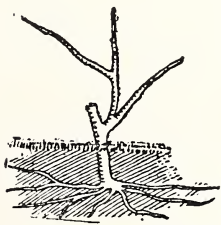


BETA GRAPE

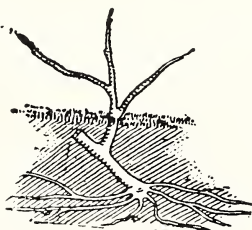
large, berries very large, dark red. Ripens with or soon after Concord, and is of peculiar, aromatic flavor.

ALPHA—The native vine was found growing wild in woods belonging to St. Johns University, near St. Cloud, Minnesota. The Alpha developed into a healthy, vigorous vine, free from mildew, bearing bunches of large size and good quality. The Alpha has endured the severe climate at Collegeville without any protection for the past eighteen years. When wood has well ripened, thirty degrees below zero will not injure the vine. The Alpha is very valuable for covering arbors and trellises on account of its extreme hardiness and very rapid growth. The fruit is excellent for making grape juice, jellies, etc.

BETA—Valuable for arbor covering and one of the best of all the grape family to manufacture into grape juice. Like the Compass Cherry, the hardiest of all cherries, the Beta, the hardiest of all grapes, originated in Minnesota. While there is some difference of opinion as to its parentage, practically all agree that one of its parents is the old reliable Concord. The Beta has been tried out under all imaginable condi-



The wrong way to plant



The right way

Grapes Always Bring Good Prices

tions from Iowa to the most northern Canadian Experiment Station. In every case it has shown itself superior to the old varieties in hardiness and ability to bear an abundance of splendid fruit. Recommended by all horticultural societies and experiment stations.

BRIGHTON—A cross between Concord and Diana Hamburg; bunches large, berries of medium size, flesh sweet, tender and of the highest quality; ripens early, dark red, when fully ripe almost purple. Healthy but should be laid down and covered with litter in late fall.

CAMPBELL'S EARLY—Strong grower, with large, healthy foliage; productive; its keeping and shipping qualities are equaled by no other early grape. Ripens with Moore's Early. Bunch and berry, large glossy black with blue bloom, sweet and juicy; seeds few and small, part readily from the pulp. Stands at the head of early black grapes for quality.

CONCORD—A large, handsome grape, ripening in latter part of September; very hardy, productive and reliable; succeeds well over a great extent of country. One of the most popular market grapes.

DELAWARE—Bunch small to medium, compact, usually shouldered; berries medium, amber colored; skin thin, but firm; flesh juicy, very sweet and refreshing. Vine hardy, moderate grower and productive. Ripens with Concord. Requires rich soil and good culture. Fruit of best quality for table. It is esteemed in many localities as the best American grape, all things considered. Should be in every garden and vineyard.

ELVIRA—Very vigorous, strong, and healthy grower. White, bunch and berries medium size, very compact and productive, often growing four or five clusters on a single cane. Liable to crack.

MOORE'S DIAMOND—Few grapes surpass the Diamond in quality and beauty of fruit. Its chubby bunches of big, green berries are most attractive. When fully ripe they have a tinge of golden. Just enough of the richness of Old World grapes combined with native fox grapes to give them a wonderful flavor. Very productive.

MOORE'S EARLY—Black, similar to Concord, but of larger berry and somewhat smaller looser bunch. Vine moderate grower, but heavy producer. Ripens a week or more ahead of Concord. Very popular home and market grape.

NIAGARA—Said to be a cross of Concord and Cassidy. Bunch medium to large, compact occasionally shouldered; berry large, roundish, uniform; skin thin but tough, pale green at first, changing to pale yellow when ripe, with a thin, whitish bloom; flesh slightly pulpy, tender, sweet. Vine vigorous, healthy and productive; foliage thick and leathery. Ripens with the Concord. All things considered, the Niagara is probably the most valuable white grape in cultivation.

POCKLINGTON—A seedling of the Concord. Bunch medium to large, generally shouldered; berry large, roundish, light golden yellow when fully mature; flesh pulpy, juicy, of fair quality. Vine very hardy, healthy, vigorous and productive; leaves large, tough and downy. Ripens after Concord. It will require favorable seasons and good locations to ripen it satisfactorily north of Central Iowa.

WORDEN—The Worden is the best of all of the black grapes. It is a seedling of the Concord but ripens from ten days to two weeks earlier. It is fully equal, if not superior in quality to the Concord. A vigorous grower and a much heavier bearer. In some places it has been known to out-yield the Concord two to one.

Currant

No fruit garden is complete without currants. They are easy to grow and yield abundantly every year. There is no other fruit that makes such bright colored, highly flavored jelly as the Currant. Currants are also used in combination with other fruits to give the color and "jell" that other fruits lack. A well cared for bush will yield several quarts of fruit in a season.

Culture—Currants love cool deep soil and a little shade. They do well in such places as among fruit trees or along fences as well as in the open. They should be planted three to four feet apart and given good cultivation, plenty of fertilizer and a pruning once a year, preferably late in the fall.

The only enemy of the currant to give any trouble is the currant worm. This, however, is easily and safely checked by sprinkling

HELEBORE in powder form (obtain from your druggist) on the bushes as soon as the worms appear. An easy way to apply the helebore is to mix it with flour about five to one. Put the mixture in a sifter and shake it over the bushes while the dew is still on them.

The varieties listed below have been tested out over a period of years and found especially desirable.

CHERRY—The Cherry Currant is a vigorous growing, stocky bush. The clusters of berries are rather short yet the bush is a heavy bearer. The fruit is large, bright red in color, very juicy and of fine flavor, with thin skin.

LONDON MARKET—The London Market Currant has been grown for many years in

The Juice of the Grape Hits the Spot



Long Bunch Holland Currants

the market fruit district of Michigan where it is very popular on account of its vigorous growth and heavy yields. Fruit red in color, clusters large, and berry good size. The Experiment Station of North Dakota lists the London Market as the best currant for that state. It can safely be recommended as one of the best.

LONG BUNCH HOLLAND—The Long Bunch Holland Currant is an unusually strong growing bush and grows to immense size. The berries are large and borne in long, easily picked clusters which ripen somewhat later than other currants. The fruit is bright red and of fine quality. Do not hesitate to recommend the Long Bunch Holland for a heavy bearing market berry.

PERFECTION—The Perfection Currant is a very large, beautiful, bright red currant of splendid quality. Very popular as a table berry, served with sugar and cream. A good seller on account of its great size and splendid color.

POMONA—The Pomona Currant is of good size, the berry is bright red; a very beauti-

ful fruit on account of being almost transparent, and very few seeds. The bunches hang on the bush for a long time after ripe, without dropping. The Pomona is a good market berry as it holds up in shipping about the best of any good bearing variety.

RED DUTCH—The Red Dutch currant is one of the oldest varieties, and is still the favorite with many. A heavy bearer of medium sized berries. The fruit is bright red and borne in good sized bunches that ripen very early. One of the most profitable of currants.

VICTORIA—The Victoria currant is a vigorous grower, bearing long clusters of bright red, medium sized berries that ripen later than most other currants. By planting some Victoria with the other currants you considerably extend the currant season.

WHITE GRAPE—The White Grape currant is a very large white currant, probably the best of all white currants. High in quality and a favorite as a table berry. It does best on rich soil.

Currants Are Easily Grown. See Page 18.



Gooseberries

Gooseberries are a sure crop. Gooseberry bushes are absolutely hardy anywhere in the Northwest. They bear big crops of berries that make the finest kind of jelly and sauce, to say nothing about the delicious "gooseberry pie". Gooseberries are rich in pectin ("jell") and are used a great deal to mix with other fruit that does not "jell" very well.

Culture—Gooseberry bushes, like currants, do well in semi-shaded places such as among trees, in the orchard or along fences. They love rich cool soil and when given plenty of mulch or fertilizer, never fail to bear big crops. They should be planted three to six feet apart so as to give them plenty of room to grow and still leave room to get between them to pick the berries.

Pruning—Gooseberries should be pruned quite severely once a year, preferably late in the fall, to cut out all weak or undesirable shoots and leave the bush reasonably open.

Worms—Gooseberries, like currants, have but one enemy that gives much trouble, the currant worm, which is easily controlled by sprinkling the bush with hebebores as soon as the worms appear (see suggestion under currants).

The varieties we list below are those that have proven of especial value. Our gooseberries are grown here at Charles City from stool beds set many years ago with especially selected strains of true-to-name varieties.

CARRIE—The Carrie is perhaps the best all round gooseberry that has been introduced so far. It is a vigorous grower and begins

to bear very young (usually the year after it is set out). The fruit is borne in profusion, yielding several quarts per bush. The fruit is quite large (sometimes as large as $\frac{3}{4}$ of an inch in diameter) and perfectly smooth. When ripe the fruit is a deep wine color with a very pleasant flavor.

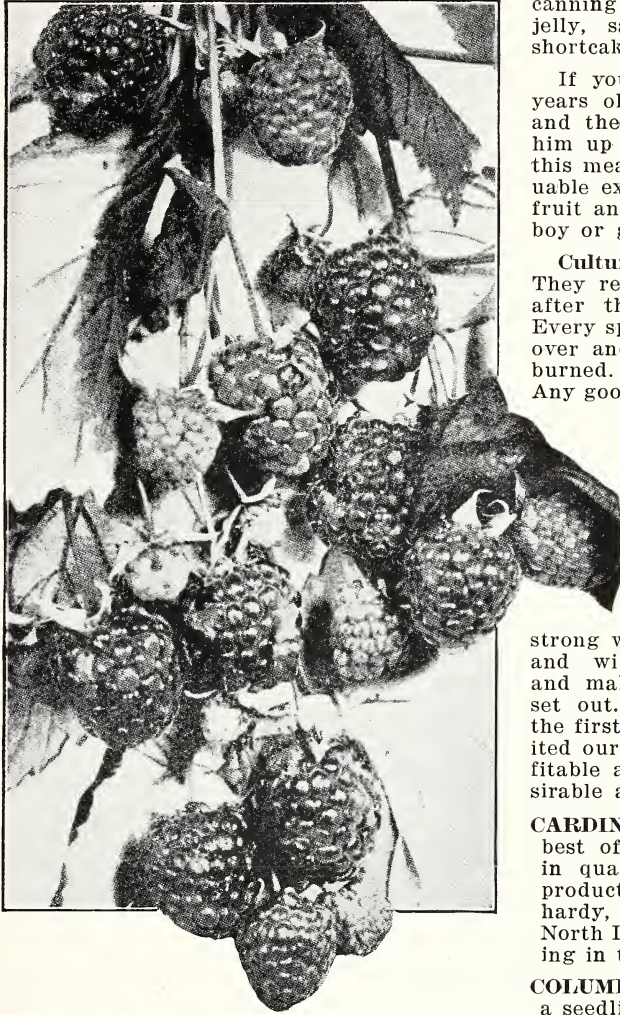
DOWNING—The Downing gooseberry has perhaps been planted for market berries more extensively than any other. The Downing is a very vigorous grower and a heavy bearer of large juicy high quality fruit. When ripe it is of a whitish green color. In certain localities the Downing is subject to mildew. This, however, can be easily controlled by spraying with Bordeaux Mixture. (See directions under Spraying Calendar, page 75.)

HOUGHTON—An old tried variety. A vigorous grower and very productive. Berries of medium size, smooth, pale red, and of good quality. The Houghton is not subject to mildew. When in doubt plant Houghton.

PEARL—The most prolific gooseberry known. One bush produced 2,500 berries. It is free from mildew and is larger than the Downing. The color is light green and quality first class. Being thoroughly tested, it promises to be one of the most valuable varieties of recent introduction and the best of its class.

RED JACKET (Joslyn)—A most prolific and valuable gooseberry; as large as the largest; berry smooth; very hardy; quality and foliage best of any gooseberry known. The Red Jacket is free from mildew.

The Most Popular Market Varieties



Raspberries

The raspberry shares with the strawberry the honor of being the most popular of all small fruit, in fact, many people prefer the delicate flavor of the raspberry to that of any other fruit. Raspberries are always in demand and always command good prices. They are easy to raise and a sure crop. For years the supply of raspberries has not been enough to supply the demand. For a long time the price of raspberries has been high, sometimes as high as 50 cents a quart. These high prices are likely to prevail for some time, as raspberries will continue to be scarce because few plantations have been set out the last few years.

There never was a time more favorable than right now to get into the highly profitable business of raising raspberries for market.

Raspberries are delicious for table use. For

canning purposes they are unexcelled, as jelly, sauce, jam or butter. Raspberry shortcakes are delicious.

If your customer has a boy or girl 15 years old or so, he will be doing himself and the youngster a good turn by setting him up in the fruit growing business. By this means he will give the boy or girl valuable experience in growing and marketing fruit and help the problem of keeping that boy or girl happy and satisfied.

Culture—Raspberries are easy to raise. They require but little cultivation or care after the plantation is once established. Every spring, the plantation should be gone over and all old weak canes removed and burned. Raspberries require plenty of sun. Any good soil will do, although a light loam is preferred. See page 5 for distance apart to plant.

Our raspberries are 2-year-old transplanted plants, not the cheap plants sometimes sold and known to the nursery trade as **tip plants**. 2-year transplants are **strong plants** that have been taken as **tip plants**, grown and pruned for another year, which gives the customer a strong woody plant that has plenty of root and will stand the shock of resetting and make a strong growth the first year set out. Our raspberries frequently bear the first season after setting. We have limited our list to those that have proven profitable as a market berry or especially desirable as table fruit.

CARDINAL (Purple)—This is probably the best of all purple raspberries. Excellent in quality, a vigorous grower, and very productive. The Cardinal is exceptionally hardy, being highly recommended by the North Dakota Experiment Station for planting in that state.

COLUMBIAN (Purple)—The Columbian is a seedling of the Cuthbert, grown near the Gregg Blackcap Raspberry, and believed to be a cross between the two. It is a most vigorous grower; fruit very large; color dark red, bordering on purple; adhere firmly to the stem; seeds small, has a distinct flavor of its own, making it a most delicious table berry. For canning purposes it is much superior to any other.

CUMBERLAND (Black) — Probably more largely grown than any other black raspberry. The plants are tall, vigorous, hardy and heavily productive. The berries are glossy black, sweet and excellent.

GOLDEN QUEEN (Yellow)—One of the best yellow varieties grown.

GREGG (Black)—One of the most valuable varieties of the Blackcap family; hardy. A vigorous grower and great yielder.

KANSAS (Black)—Round, firm, moderately juicy, strong grower and very productive, ripens early; considered one of the best

Every City Home Should Have Its Raspberries

market berries on account of its handsome appearance.

KING (Red)—Pronounced the best early red raspberry by many of the leading horticulturists. Plant a strong grower, very hardy and productive. Berry is firm, a good shipper; large size; beautiful bright scarlet color; ripens with the earliest. Prof. W. J. Green of the Ohio Experiment Station says: "King has proved the best early red raspberry. It is large, bright red, quite firm, and of good quality."

LATHAM (Red)—A very fine fruit for home or market. Rich, red color, large size, many double fruits appearing at the first picking. Ripens about one week later than King. Canes vigorous and nearly thornless. This raspberry was originally known as Minnesota No. 4. Sometimes sold under the name of Redpath.

OLDER (Black)—A splendid black raspberry. Exceptionally hardy and a sure bearer. Ripens a little earlier than the Gregg. It does not sucker.

PATTEN'S BLACK RASPBERRY (Black)—Plant a heavy strong grower, very similar in habit to Cumberland. Leaves large and heavy. Fruit the largest of the blacks,

comparing favorably with Older in quality. A strong bearer. Season, later than other black varieties.

REDPATH—The Redpath is a name under which the Latham is sold in some sections of the country.

ST. REGIS (Red)—This everbearing red raspberry bears the first season. The berries are large and beautiful and full flavored to the very last. The St. Regis is the only raspberry, as far as known, that is practically sure to produce a crop of fruit the season planted. Awarded the highest certificate of merit by the American Institute of New York. Where it receives plenty of moisture it bears continuously through the season.

SUNBEAM (Red)—First sent out, spring of 1906. Female parent a wild red raspberry, from Cavalier County, North Dakota, near the Manitoba line. Male parent, Shaffer's Colossal, from New York. Plant extremely vigorous, productive, purple-caned. Fruit of fair size and quality. Worthy of trial where raspberries winter-kill, as it has endured 41 degrees below zero without protection. It endured perfectly at Bismarck, North Dakota, without protection, and other good reports have been received.



Blackberries

Blackberries are a wonderful fruit. They are easy to grow and require little care after once established. They succeed in almost any well drained soil. The fruit is large and ripens at about the end of the raspberry season. Blackberry pie has always been famous, nor is blackberry jam without honor. If we are to believe tradition, there was a time when the juice of the blackberry made an acceptable beverage to many.

Culture—The blackberry requires about the same kind of soil and treatment as raspberries, except that they should be planted farther apart, viz: rows six feet apart, about three feet in the row. To avoid too strong growth and prevent the canes from spreading too far, the canes should be pinched back occasionally during the growing season, which causes the plants to grow in the form of low bushes and at the same time bear more and finer fruit as well as making it easier to pick the crop.

Our blackberry plants are grown from root cuttings instead of tips. This method results in strong plants with plenty of fine fibrous roots, which make a stronger and surer growing plant that comes into bearing early.

ANCIENT BRITON—A reliable mar-

Don't Overlook the Blackberries

ket variety of medium size and best quality. One of the hardiest. Berries large and sweet. Sells well on the market and is a very profitable variety.

RATHBUN—A strong, erect grower, with a strong stem branching freely; forms a neat, compact bush, four to five feet high, producing its immense fruit abundantly. Fruit

is sweet and luscious, of extra high flavor; without hard core; jet black, small seeds; firm enough to ship and handle well. Very large size.

SNYDER—One of the hardiest and best known sorts grown in the Middle West. Fruit large and of good quality when fully ripe; very vigorous and productive.



Strawberries

Strawberries are the most popular of all small fruits, and rightly so. The human race knows no more delicious dish than strawberries and cream, unless it might be a strawberry shortcake.

Strawberries do well on almost any kind of soil. A patch twenty feet square has been known to produce six crates (144 quarts) of ripe berries in a single season.

There are two classes of strawberries, June bearing and Everbearing. The Everbearing, as its name indicates, produces berries practically the entire growing season. The total crop from the Everbearing plants, however, does not greatly exceed that of the June bearing, but is spread over the entire season. This is particularly appreciated late in the summer when all other berries are gone.

The strawberry blossoms are also classified in two kinds, Staminate (Perfect) and Pistillate (Imperfect). The strawberry varieties that have proven the most fruitful are those with Staminate blossoms. The reason some varieties do not produce is that they have Pistillate (Imperfect) blossoms and in order to bear, a row of plants with Staminate or perfect blossoms must be planted every so often to fertilize the imperfect blossoms.

We do not list any but Staminate or self-fertilizing plants and only the outstanding varieties of these. Our plants are one year old. We do not make a practice of fruiting a strawberry bed a year and then selling the old plants the following season.

Culture—Any well fertilized and well cultivated land will do. A northern exposure is

thought to be a little less liable to injury by late frost in the spring.

In small gardens a good way is to plant them in hills eighteen inches apart. For field culture plant in rows 3½ feet apart and one foot in the row.

Preparing Plants and Planting—Cut off the stems, leaving but one or two of the smallest leaves and cut off the ends of the roots, leaving them about four inches; this should be done in a cellar or cool, shady place. Have a pail or box of rather thick mud and mud the roots, placing them in a shallow box, tops out. If it is a dry, windy time, set them in the cellar after treating as above and wait until more moist weather, or plant near evening and water the plants. Set them firmly.

Cultivation—This should be done once a week until well established. For the hill culture, it must be done with the hoe. Keep the runners pinched off so as to get a strong, vigorous plant in each hill. In field culture use a small tooth shallow cultivator, and when the runners start, direct them so as to fill all vacancies and form a bed one foot each side of the row; this will leave a walk between. It is best to cultivate one way only, so as not to double the runners back and break them. Keep the runners cut off after a space of one foot on each side of the row is covered.

Protection—In the fall when the ground is first frozen, cover it with three inches of marsh hay or clean straw—rye is best. Be careful about using anything with weed seeds in it. In the spring take the covering into

The First Fruit of the Summer

the paths and around the plants to keep the heavy rain from washing dirt onto the fruit. Pull out all weeds that start.

Immediately after the fruiting mow off the tops of the plants, take them and the straw off the beds and burn them, then with a sharp plow turn over the edges of each row into the paths, leaving a strip of plants six inches wide. Cultivate the ground and grow new plants as before for the next years' fruiting.

NO. 999 GIANT (Everbearing)—This is without doubt, the strongest rooted strawberry plant known, and is a good bearer, and sturdy grower and a great plant maker. Berries are of immense size, often measuring up to $1\frac{1}{2}$ inches in diameter.

PROGRESSIVE—The Progressive Everbearing is a great ever-bearer. Earlier as a spring crop than any other berry; splendid quality, staminate, and almost as free a plant maker as its parent, the Dunlap. A persistent bearer from May to November. Fruit of fair size, resembling the Dunlap.

SENATOR DUNLAP—This is the leading strawberry throughout the United States. It does well everywhere and produces enormous crops of fruit regularly. Senator Dunlap has perfect blossom, bearing a good

crop planted alone; is hardy, productive, a splendid keeper and able to hold its own under any "rough and tumble" method of culture to which it is likely to be subjected. Senator Dunlap is a very heavy bearer of good size, evenly shaped fruit of a very beautiful dark red color, and its flavor is delicious. For canning it is fine, making a rich, red syrup. It is a first class shipper and retains its brightness long after being picked. It always looks well on the market and sells quickly at top prices. The best proof we have that this berry is a big money maker everywhere is the fact that our customers in nearly every state in the Union are ordering Senator Dunlap in very large quantities every year, often planting several acres solidly to this variety. We cannot recommend Senator Dunlap too highly. We guarantee it to please you in every way.

Miscellaneous Fruits

DWARF JUNE BERRY—Fruit hard to distinguish from blueberry or huckleberry. The shrub grows about four feet high, and bears annually an abundant crop of fruit, which ripens in June.

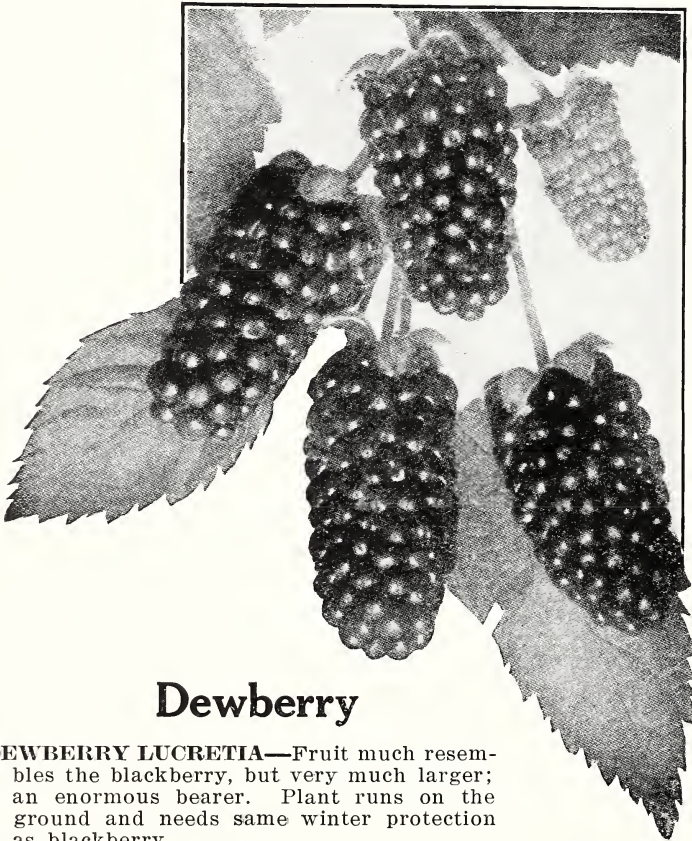
RUSSIAN MULBERRY—A very rapid-growing plant; bears well; fruit sweet, variable in size and color; leaf dark green and of very different shapes; some are birch-shaped, others cut and notched as much as any of our oaks, and in as many different shapes as all the varieties put together. Will stand almost any amount of drought.

Vegetables

ASPARAGUS

There is big money in raising Asparagus for the market. There is never enough to supply the demand. There are many localities where several hundreds of acres are devoted entirely to growing Asparagus. For family use a bed a rod square will provide an ample supply for years.

Culture—To make an Asparagus bed, prepare a place of fine, loamy soil, to which has been added a liberal dressing of rich manure. For a garden, set in rows eighteen inches apart, with the plants ten to twelve inches apart in the rows. Make a



Dewberry

DEWBERRY LUCRETIA—Fruit much resembles the blackberry, but very much larger; an enormous bearer. Plant runs on the ground and needs same winter protection as blackberry.

Plant Asparagus for Profit

small mound of the soil in the center of the hole in which you are planting, over which the roots should be spread, then cover the plants with about five inches of soil. If planted in the fall the whole bed should be covered before winter sets in with two or three inches of coarse stable manure, which may be lightly forked in between the rows as soon as the ground softens in the spring. Set the plant so that the top or crown of it is five to six inches below the surface.

CONOVER'S COLOSSAL—Shoots deep green and often over an inch in diameter are thrown up very rapidly from this variety. One of the best.

WASHINGTON (Rust Proof)—A new rust-resistant pedigreed Asparagus. As a standard variety for the production of fancy Asparagus for the home or market, it stands ahead of all others in size, vigor, tenderness, quality and rust-resistance.

RHUBARB (Pie Plant)

LINNAEUS—The very finest variety of Pie Plant; very large, early, tender and fine.

VICTORIA—Stalks tall and large. Comes extra early and is unexcelled for forcing for the early spring market, and for this purpose is appreciated by truck growers.

Evergreens

Evergreens grown in the nursery can be transplanted as successfully as any other kind of tree. Our methods of handling, root pruning, and transplanting in the nursery, develops an abundant root system close to the body of the tree. The importance of this heavy root system cannot be over-estimated when you consider that the evergreen is in full leaf the year around and must withstand the shock of transplanting in this shape and without pruning. Evergreens, as a rule, do not do well that have NOT been carefully grown and systematically prepared in the nursery for transplanting.

Evergreens grow very slowly for the first few years of their life, during this period they are very tender and require a great deal of expert "coddling" in the way of shelter from the wind, rain and direct sunshine, as well as against fungus diseases. A few hours of neglect at a critical time may result in a total loss. After this period of helplessness is past, however, there is no tree that is harder or will withstand more abuse than an evergreen.

To give some idea of the ages of evergreens at various sizes will say, that evergreens are raised from seed (except in a few cases of ornamental evergreens which do not produce seed or which do not grow true to type from seed). This seed is usually planted under cover. (Seeds of some varieties of evergreens require two years to germinate.) By the end of the growing season the first year, the evergreen will be from one to two inches high.

By the end of the second growing season, the baby evergreen is from one to three inches tall.

By the end of the third growing season, the evergreen has reached the height of from three to five inches.

At this period it is dug up, root pruned and transplanted into another bed (still under cover) so as to give it more room to develop. In this bed they remain two years, receiving the attention of expert evergreen growers constantly.

At the end of five years the evergreen has

grown to a height of six to ten inches, depending on the variety. They are again dug up, root pruned, and transplanted into wide rows in the open field, where they continue to receive the constant supervision and care of men whose only business is to grow evergreens.

So at the age of from six to ten years, depending on the variety and somewhat on the growing conditions during the years the tree has been growing, the evergreen is finally large enough, strong enough, and well rooted enough, to be put on the market, at a size ranging from twelve to eighteen inches.

It is well to remember that while the evergreen grows very slowly as a seedling, it is a fast growing tree after it gets to be six years or more of age. It is no uncommon thing for evergreens of some kinds to grow thirty inches in height in a single season after becoming established.

When to Plant: Although evergreens are practically dormant after the middle of August, we do not recommend handling or planting evergreens at any other season than in the spring of the year, at that time the soil is generally full of moisture. The temperature is moderate, there are no hot winds. The trees have a chance to get fairly well established before dry hot weather comes on.

Size to Plant: While all our evergreens are grown to successfully withstand the shock of transplanting, we do not recommend the planting of evergreens larger than two to three feet in height, in fact the average planter will be most successful using trees ranging between twelve and twenty-four inches high. (See Evergreen 1215, page 30.) The reasons for this are as follows: First, a tree twelve inches high has more roots in proportion to top. It can be planted easier and better. It has but small surface exposed to the wind. It can be better cared for and its first cost is less.

The common experience of men who have planted the smaller trees is that at the end of ten years they have as good or better stand and their trees are as large or larger than

What Dignity There Is in the Evergreen

those of the man who planted larger trees. There is nothing to be gained by planting three to four or four to five foot evergreens.

How to Plant: Corn planting time is the best time to set out evergreens. (After the ground is warmed up). They can, however, be successfully planted any time after the ground can be worked in the spring and if the season is late and wet, they can be successfully planted any time before the new shoots begin to grow.

For evergreens, as for all other trees, the soil should be carefully prepared by deep plowing and discing so as to have a deep smooth soil. After the ground has been prepared it should be marked off with stakes and lines so that the holes for the trees will be dug at the proper places.

For Windbreak or Shelterbelt: We recommend planting the trees fourteen feet apart in the row and the rows eight feet apart, using care to set the rows so that the trees break joints, as follows:

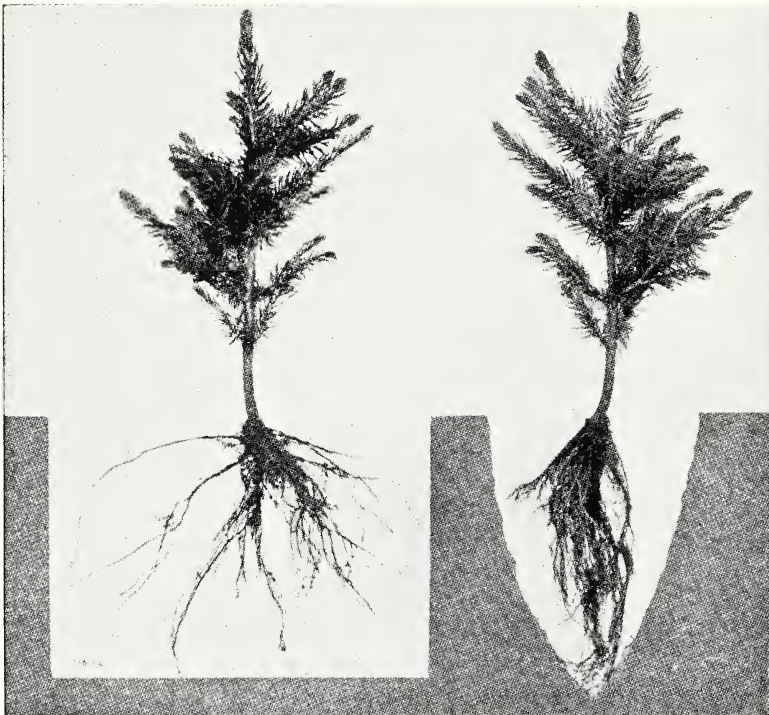


The advantages of this method of planting are:

1. The shelterbelt occupies less ground.
2. The trees are close enough between rows that the snow does not lodge among the trees.
3. An unbroken wall is secured with the fewest trees.
4. By this method the center row is crowded—this crowding makes it grow tall while the outside rows supply the protection close to the ground.

One hundred trees will make 450 feet of shelterbelt. To estimate the number of trees required for any shelterbelt, divide the length of the desired windbreak by $4\frac{1}{2}$. For example, the shelterbelt needed is 600 feet long; 600 divided by $4\frac{1}{2}$ is 133 trees, the number needed.

Setting the Tree: Make the hole plenty large. For a tree twelve to eighteen inches high the hole should be about fifteen to eighteen inches across and deep enough to permit the tree to set an inch or so deeper than it did in the nursery. The bottom of the hole should be flat, not funnel shaped. (See cut shown below.) If the hole is too deep it should be filled to the proper depth before planting. Spread the roots out as nearly as possible the way they had been growing so that the tree can draw moisture and food



No. 1

No. 2

In planting evergreens, as with all other trees, the hole should be made large and deep enough to permit spreading the roots as in No. 1.

A tree planted as in No. 2 is not likely to succeed.

Strong, Healthy Trees "Take Hold" Quickly in New Locations



A neat example of evergreen planting—an ornament all the year around

from a large area, this will give it a chance to get started quicker. After spreading the roots, sift in fine black dirt a little at a time and work it in around the roots, pressing it down firmly (if the ground is dry a soaking of water at time of planting to settle the earth about the roots is recommended.)

Remember: The sap of evergreens is resinous. Great care should be taken that the roots do not get dry. If they do the results of your planting will be poor if not a total failure.

Remember, too, that when you plant an evergreen you are planting a tree in full leaf and the wind has a good chance at it; hence, it must be set very firmly that the wind cannot loosen it. This is very important. The top soil, however, should be left loose for an inch or so as a dust mulch to prevent excessive evaporation. Putting manure, oats, etc., in the hole at time of planting or about the tree is not recommended. Windbreak evergreens should not be pruned except to cut off broken or dead branches.

Cultivation: Evergreens have been known to do well without cultivation but the man who wants his windbreak to make the greatest possible growth, will give his evergreens exactly the same cultivation he gives his fa-

vorite cornfield until the trees get so large the branches interfere with the cultivation.

Grow Something Between the Rows: As the evergreens are planted quite far apart, many successful planters make use of the space between the rows to grow other crops, such as potatoes, beans, sweet corn or other garden truck, etc., the crop of these more than pay for the cultivating.

Protection From Livestock: It is impossible to grow a shelterbelt unless livestock of all kinds is kept out of it. One of the chief values of an evergreen windbreak is that it gives good protection close to the ground; livestock always damage the lower branches.

EVERGREENS AS ORNAMENTS

After all nothing is quite so satisfactory as a successful planting of evergreens. In winter when all other shrubs are bare and ugly, the evergreen still stands in all its beauty, a delight to the eye, a shelter and resort for birds.

In no other way can 365 day satisfaction in your landscape planting be secured but by the liberal use of evergreens.

No matter what other shrubs may be planted to delight the senses in summer, remem-

Use Evergreens in Your Ornamental Plantings



Behind an evergreen windbreak. The farmer who is thus protected lives in a land "where no storms ever rage nor winds ever blow"

ber the long cold winter when these other plants are dormant and intermingle the deciduous plants plentifully with evergreens.

Evergreens are decorative and useful from the very day they are planted; time only serves to add to their charms. Planted in screens or hedges, the evergreen does what it is intended to do every day in the year in a beautiful and effective way.

The use of evergreens for foundation plantings adds a distinction and dignity to the premises, on which they are planted, that can be obtained in no other way.

Nor is the planter limited in his choice; for there are many kinds of evergreens; all of them beautiful, yet each differing from the other in shape, color, foliage and habits. Some creep, some sprawl, some grow round, some flat, some pyramidal, some like a pillar; some are light green, others blue, again others golden or deep green. The combination of these differing types and colors of evergreens into a symmetrical planting offers a pleasing problem to the planter who wants something that is artistic. Something that is 365 days ornamental and enough different from other folks' plantings to make it distinctly individual.

For 365 day landscape effect plant liberally with evergreens.

EVERGREEN SHELTERBELT PLANTING

The ambition of every farmer on the prairies of the Middle West has been to have an evergreen windbreak or grove about his buildings.

No other class of trees afford the same degree of shelter. No other class of trees add so much beauty and dignity to the farm home as a well grown shelterbelt of evergreens.

Nor is this all. An evergreen shelterbelt

pays big dividends every year in personal comfort to its owner and his family and in increased profits which are the direct result of effective winter protection.

For shelterbelt purposes, the evergreen surpasses all other kinds of trees:

First, because the evergreen carries its foliage all the year around, while other kinds of trees shed their leaves at the time when protection is the most needed; namely, during the cold fall and winter months.

Second, because the evergreen carries its branches clear to the ground and by so doing, shelters most, where the shelter is needed most, namely, next to the ground. By offering a complete and effective barrier to the wind from the ground up, it causes the force of the wind to shoot upward and over the area immediately behind it. In the case of deciduous trees the wind is merely retarded by the naked branches while below there is practically no protection.

Evergreens, for the reasons given above, afford effective protection with much fewer trees. It has been found that it takes from ten to fifteen times as many rows of deciduous trees to afford the same amount of wind protection and shelter as evergreens. This means that ten or fifteen times as much ground must be devoted to a grove if you use deciduous trees instead of evergreens. In other words, if an effective evergreen windbreak will occupy an acre of ground about your buildings, it will take from nine to fourteen acres more valuable land to secure anything like the same results with deciduous trees. This is not in any sense "knocking" the deciduous trees, but merely bringing out the fact that there is no tree equal to the evergreen for shelterbelt purposes.

The saving in land area, just mentioned, is a point that is well worth considering, for

An Evergreen Windbreak Adds Value to Your Farm

a windbreak occupies the land permanently. Land is chiefly valuable for what it will produce. If your purpose is to produce protection, and you can secure that protection on one acre by planting evergreens and do it more effectively and beautifully, it would be poor business to use from nine to fourteen acres more land for an indefinite period and then only approximate the results of an evergreen shelterbelt. In fact the crop from the nine or fourteen acres for a single year would more than pay for the evergreens necessary to set out the windbreak itself.

Let us consider the evergreen windbreak as a money-making proposition.

Did you ever drive for miles along some wind-swept country road, facing a Northwest wind till you were chilled to the bone? Then all at once, you came into the shelter of an Evergreen Windbreak—what a change! You were still out of doors. The same old sky was above you, the same old earth below; but what a difference those trees made. The air was so still; it felt warmer. It seemed as though you had suddenly stepped across the border line into a more genial climate.

Did it ever occur to you that this warmth and comfort behind an evergreen windbreak has an actual business value that can be measured in cold cash? There is no question that a failure to provide shelter of this kind for your premises means a heavy loss every year in real hard earned money. You live in a house built as warm as human skill can make it. You heat it with wood or coal,—both of which are relatively cheap fuels. In spite of the care you took to build your house warm, you know that it takes quite a little more fuel to keep it comfortable on windy days.

Your barns, hog houses and other buildings have not been built as warm as your house. You heat them with animal heat. For fuel you use hay and grain, these are very expensive fuels, for they range in price from \$15.00 a ton or more for hay to \$25.00 or more a ton for grain. You have all heard the phrase, "Cold as a barn," and "cold as a barn" is right when the wind blows down from the North in winter. Then it is simply impossible to keep the barn warm, no matter how much fuel (feed) you use if you are not snug behind a good tight windbreak.

On such days, you can see the cobwebs sway from the rafters because of the draught as the wind blows around the corners. Heat is seeping out of every crack and crevice in the building. Your animals shiver in their stalls. On such days your hogs and steers make little or no gains in weight. Your cows give less milk, your hens lay no eggs. You are losing money. Your expensive feed is all going to heat that howling Northwest wind.

Let us figure: Take those hundred hogs you are fattening, for instance. They are making a gain of a pound or more a day. A stormy week comes on and they make no gains. You lose that much. You lose that pound a day gain on a hundred hogs or 100

pounds a day for a week—700 pounds worth about 10 cents a pound—\$70.00. Rather expensive, don't you think? Behind an evergreen windbreak there are no stormy windy days. Take that bunch of 25 steers you are feeding. They are gaining an average of a pound a day on regular feed. A week of stormy weather puts a stop to that pound a day gain of beef worth about 9 cents a pound, a loss in cold cash of \$25.00 or more in but a few days, and this, of course, happens many, many times a year and year after year.

Those twenty cows you are milking, give you about 25 pounds of milk each, daily. Along comes the first stormy week in winter. They stand in their stalls with their backs humped up, the icy wind is searching out every joint in the building. It is "cold as a barn." You turn them out to drink—out into the full force of that bitter wind. They stand around shivering, too cold to drink, waiting only to be let back into the barn where the cold is less intense. Your milk yield falls off 30 per cent—and you lose again. You lose 150 pounds of milk a day for a week or more, 1,000 pounds worth \$2.25 a hundred,—\$22.50.

Your hens have been laying a couple of dozen eggs or more a day. When winter comes and eggs are highest in price, they stop and you lose again, just how much you can't tell. You are feeding them just the same. At 50 cents or more a bushel for grains and no returns,—it is no slang to say, you are "throwing your money to the birds."

Then how about the saving of fuel at the house, A windbreak will easily save you a ton or more of coal in a year.

And your own comfort? How about that? Is that worth anything to you? You won't live on this old earth always. This is positively the only trip you will take through this "vale of tears." Why shorten your days? Why take hardships and discomfort when you are losing money by doing so and will make money by looking to the comfort of yourself and your dumb beasts? Why should you spend every winter battling with the Northwest wind, when you can, for a small part of a single season's losses shut it out forever?

One man says "I am two hundred miles farther south than my neighbor across the road, because of my evergreen windbreak." Why not move south in the same way? Prosperity smiles on the man behind an evergreen windbreak, no doubt about it.

His hogs and steers are ready for the market sooner and with less feed than his neighbors. His cows give him a full pail when butter brings the highest prices. His hens lay eggs when his neighbor's hens are shivering on the roosts. He does his chores cheerfully and in comfort for he lives in a land "where no storms ever rage or winds ever blow."

Let prosperity smile on you. Start an evergreen windbreak.

Your Stock Needs Winter Protection



Evergreen 1215 windbreak 10 years after planting

THE BEST EVERGREEN TO PLANT

EVERGREEN 1215

As the largest growers of evergreens in the world, we have made it a point to study the planting of shelterbelt evergreens from the planter's side. As we plant out hundreds of thousands of evergreens ourselves every year we have a chance to study the planting problem as no one else could. The result of this study has been to develop and put on the market a type of evergreen that had been grown, root pruned, transplanted and fertilized from the seedling up, with the idea in mind to withstand transplanting and the trying conditions that follow, to a greater extent than any other evergreen. To do this, we developed a type of evergreen with a large system of fine fibrous roots which gave it great and abundant vitality. An evergreen "rarin' to go" with life and vigor drawn from the richest soil in the world. Forty years of successful evergreen growing is represented in that tree—forty years of evergreen growing experience by the largest growers of evergreens in the world. Evergreen 1215 is what we called it. It has been a success from the very beginning. So successful in fact that there have been many imitations put on the market by other nurseries. BUT THERE IS ONLY ONE EVERGREEN 1215. To get Evergreen 1215 results you must plant Evergreen 1215. Evergreen 1215 is a type of Evergreen. They stand 12 inches or more in height as they grow in the nursery and are from five to seven years old when you get them.

Evergreen 1215 is so full of life and so fast growing, that three rows of them have made a better windbreak at the age of ten years from setting out than five acres of cottonwood, boxelder, maple or ash, planted at the same time.

Evergreen 1215 costs but little.

An Evergreen 1215 shelterbelt does not occupy much space for the amount of shelter it affords. Three rows planted 8 feet apart will occupy a space 32 feet wide and will afford more shelter than acres of other kinds of trees especially when the north wind comes down in winter, when it is most needed.

Evergreen 1215, on account of its size and shape, can be better planted and with less labor and expense than other evergreens.

Evergreen 1215 starts growing at once and grows so fast that inside of five years you cannot tell apart Evergreen 1215 and three-foot evergreens planted at the same time.

Evergreen 1215, when ordered in 100 lots, comes packed in a box by themselves ready for delivery to you without being unpacked and exposed. They come from the ground where they grew direct to you.

With an Evergreen 1215 windbreak you get more and better shelter with a smaller investment in money, time and land than in any other way. Prosperity seems to shine on the man with an Evergreen windbreak.

WHAT THE PLANTERS OF EVERGREEN 1215 SAY

Waukon, Iowa.

Dear Sirs:

Out of the 500 Evergreen 1215 trees I bought from you two years ago, there are 460 alive today and I have just finished counting and measuring them with the following results: 205 trees are from 42 to 60 inches; these I transplanted this spring.

15 trees are from 24 to 30 inches.

40 trees are from 30 to 36 inches.

100 trees are from 36 to 42 inches.

Evergreens 1215 are a Proven Success

100 trees are from 42 to 48 inches.

100 trees are from 48 to 54 inches and over.

My apple orchard planted at the same time is doing fine. Of the fifty trees have only lost two and I attribute their loss to planting them too close to some other large trees.

All of the small fruit which I purchased at the same time is also doing fine as it is with all of your nursery stock sold in this neighborhood.

Yours truly,

D. D. RONAN.

Gentlemen:

Carrville, Iowa.

I am sending you two pictures showing a portion of my windbreak. The pictures, however, show only a part of the 500 evergreens, 1215, which I purchased of you five years ago. I have 496 trees alive and have not had to replace any.

I had the ground already, and with two men set them in half a day. The first season I plowed them three times, and hoed them twice. No cultivation was given after the first of August.

At the end of the first season they were

from 20 to 30 inches high and as you see have kept steadily at it ever since. Needless to say, I am a firm believer in your wonderful 1215 Evergreens.

Sincerely yours,
(Signed) A. F. JONES.

Gentlemen:

Marietta, Minnesota.

I am going to write and tell you what success I had with the one thousand "1215"—12 to 15 inch Norway Spruce I purchased of you six years ago.

Of the 1,000 Spruce I purchased. I have a comparatively small loss. In preparing the ground I took the walking plow and plowed a deep furrow in which I planted the trees. I did not cultivate the trees, but hauled straw between to keep the moisture and this I did every year.

The average height of the trees is, today, fully seven feet. I am well satisfied with the purchase.

I am writing you this so that others may know of the success I have had with these evergreens.

Yours very truly,

RALPH BENINGA.



EVERGREEN 1215

The way they look. Notice the size of tree, top and root—the many fine roots, the fine shape

A Little Care and You Can Have a Windbreak

GROWING CHRISTMAS TREES A PROFITABLE BUSINESS

There is big profit in growing evergreens for the Christmas Tree trade. Cultivated or nursery grown evergreens are in big demand at good prices.

Millions of small evergreens are used every year for Christmas decoration and for Christmas Trees. Most of these trees now come from the evergreen forests where they are cut and stacked up months ahead of time awaiting shipping orders.

Every family with children is a customer for Christmas trees. You do not need to live next to a large city to have a big market for all you can raise. Where the Christmas shopper can get the cultivated evergreen, he will not look at the forest grown trees and will gladly pay the difference in price, for the cultivated tree is well shaped. It has plenty of branches, well covered with bright green foliage, and because the trees are freshly cut, the foliage clings to the branches for weeks. People who have never been in the habit of having "Christmas Trees" will buy the cultivated or nursery grown tree on account of its ornamental value. The demand for this kind of tree is growing, in fact, so far there has not been anywhere near enough cultivated Christmas trees to satisfy the demand.

So far the business of growing cultivated Christmas trees is new in the Middle West, but there are many farms in the East that are devoted to the growing of this kind of tree. The people of the Middle West have been heavy buyers of the forest grown Christmas trees for the reason that none other could be gotten. They are not only able but willing to buy a first class article. The nursery does not make any effort to cater to the Christmas tree trade, yet hundreds of dollars worth of Christmas trees are sold annually to people who come to the nursery or call up over the phone and order their nursery grown Christmas trees, proving that there is a very real demand for this kind of a tree. The demand is growing every year.

Can Christmas trees be successfully and profitably grown in the Middle West? The conditions of soil and climate in the Middle West are as good if not better than anywhere in America. The testimonials of men who have raised the type of tree we recommend for Christmas tree planting will be found on page 30. They are taken at random from hundreds of planters. Taking the experience of these men and the experience of the Christmas tree growers in the East who have been in the business for several years, we recommend the planting of Norway Spruce, which is the fastest growing and most beautiful of evergreens. The size we recommend is the Evergreen 1215 described on page 30. These trees properly cared for will begin to be marketable at about six years after setting out.

The method of planting and growing that has proven most successful is to set the Evergreen 1215 in rows three feet apart and three feet apart in the rows. Planting in this way,

you will get 5000 trees on an acre. The trees are cultivated exactly like corn or similar crops to keep the weeds down or the ground should be well mulched between the trees every year.

Every year a new planting should be made so that there will be no break in the crop from year to year. As soon as the trees are large enough to market, they are either cleaned out, row after row as the demand requires or every other tree is taken, leaving the others to grow to larger sizes.

The prices of Christmas trees sold at retail, run from 75c to \$1.00 for a three or four foot tree, although the four foot size many times brings \$1.50 each. The net income from an acre of Christmas trees, after deducting the cost of planting, cultivating, use of the land, etc., runs from \$1800.00 to \$2400.00 and as the crop takes about six years to grow the returns per acre for each year is about \$300.00.

AMERICAN ARBOR VITAE (*Thuya Occidentalis*, or *White Cedar*)—This is a thrifty growing tree with bright green foliage, hardy anywhere. It is especially recommended for screens, hedges or windbreaks, as it responds well to trimming.

ARBOR VITAE (Compacta)—Of compact habit and round top, closely resembling *Globosa*; rather dwarf, with bright green foliage. Formal and attractive, hence popular everywhere.

ARBOR VITAE (Douglas Golden)—A valuable golden form of *Arbor Vitae*, a strong grower, forming a broad, bushy, heavy specimen. Its unusual bright golden color adds contrast and a novel touch when planted with other evergreens. Can be easily sheared and kept at any height or form desired.

ARBOR VITAE GLOBOSA (*Thuya Globosa*)—A hardy dwarf form of the American White Cedar. It has the characteristic *Arbor Vitae* leaf. Its foliage is dense and a bright beautiful green. It takes its name from its habit of growth, as it naturally grows round or globe shape and requires no trimming to keep it so. The *Globosa Arbor Vitae* is a slow growing tree, a specimen with an eighteen inch top being about ten years old. It is especially fine for planting in tubs for porch trimming or for formal planting such as along walks as sentinel trees. It is a beautiful ornament wherever it is used.

ARBOR VITAE, HOVEY'S GOLDEN (*Thuya Hoveyi*)—A rather slow growing form of *Arbor Vitae*, especially fine for group planting on account of its golden green foliage. In shape it closely resembles the *Globosa Arbor Vitae*.

ARBOR VITAE PYRAMIDAL (*Thuya Pyramidalis*)—Another form of the American White Cedar, a handsome, graceful tree, rather slow growing. As its name indicates, it grows naturally in the shape of a rather

Plant Norway Spruce, the Time Honored Christmas Tree

slender pyramid. This type of tree is much used as sentinel trees, as well as in back-grounds or at the sides of groups of other evergreens to balance the effect. Dark green foliage.

ARBOR VITAE SIBERIAN (*Thuya Siberica*)

A beautiful imported type. It grows in the form of a rather broad pyramid. Its tendency is to hug the ground, hence is especially adapted for hedges. Its dense bluish green foliage makes it distinctly different.

AUSTRIAN PINE—It is one of the best foreign species for this country. Its growth, even when young, is characteristically stout and sturdy. A remarkably robust, hardy, spreading tree of grand size; very dark and massive in effect, and when planted in an appropriate location is distinct and unique. One of the hardest in dry sections. Usually grows with a round top.

BALSAM FIR—Tree conical in form; foliage deep green on upper surface and silvery on lower surface. A very symmetrical tree and beautiful while young, but inclined to shed its small branches and become naked and unsightly as an old tree.

BLACK HILLS SPRUCE (*Picea Canadensis*)

The Black Hills Spruce, a type of the White Spruce native to the Black Hills in South Dakota, is rapidly becoming one of the most popular evergreens in the Northwest. Its absolute hardiness, the ease with which it transplants, its symmetrically dense growth and dark green color, place it in a class by itself. As an individual ornamental tree it is as distinguished as the Colorado Blue. It grows a little slower than the White Spruce, but its many other good qualities fully outweigh this. Minnesota Forestry Board writes: "This variety is strong and especially hardy under conditions of drought and exposure. It is adaptable to light soils and especially recommended for the North and West."

COLORADO BLUE SPRUCE—A slow growing tree with branches broad and fan shaped. This species varies greatly in color, from pale green to a beautiful silvery green. Specimens of the latter color are hard to obtain, and for that reason are very expensive.

CONCOLOR (*Picea Alba Coerulea*)—This tree is a native of the Rocky Mountains. It grows pyramidal in form, and in its native



Black Hills Spruce, showing manner of growing in the nursery

The Best Tree for Western Iowa, the Dakotas and Western Minnesota

mountains grows to a very large tree. Its foliage is long, very soft and pliable, and varies in color from silvery blue to a very deep green. In the opinion of many this tree is far more valuable than the Colorado Blue Spruce as an ornamental tree.

DOUGLAS SPRUCE—A native of the Rocky Mountains and Pacific Coast states; large conical form; branches spreading, horizontal; leaves dark green above, silvery white below. This tree is known under different names and is the tree from which most of our spruce and fir lumber is obtained. Our trees are grown from Montana grown seed and therefore of much hardier type than the ordinary tree.

JACK PINE—Is native the farthest north of all American pines. It is valued for its extreme hardiness and vigor; withstands long droughts and hot, dry winds. The tree is of rather irregular and scrubby growth; foliage bright green; needles short and stiff. A tree well adapted to very sandy soil.

JUNIPER-IRISH—Foliage similar to red cedar; top very narrow and of columnar form; color silvery green; one of the most beautiful of evergreens, but tender in this latitude and not recommended for planting in exposed situations.

JUNIPER-PFITZERANIA—This is one of the finest of the Juniper family. Somewhat slow growing and among the hardest evergreens. It has been found especially desirable for planting in cities on account of its ability to withstand the soot and dust. Foliage gray green all the year around. The Pfitzerania presents a striking appearance. Very valuable in landscape or foundation planting on account of its low growing fern like character. Trees twenty years old are seldom above five feet in height.

JUNIPER-SABINA (Compact Savin Juniper)—Bushy, low grower, branches semi-erect; beautiful deep green; fine for massing or as a low tree in foundation groups.

JUNIPER SABINA TAMARISCIFOLIA—An excellent creeping dwarf variety. The foliage is fine in texture; average height is 1 foot, with a spread of 6 to 8 feet when full grown. Sometimes called "Gray Carpet Juniper," "Tamarisk-Leaved Juniper." A very vigorous grower, forming a compact and perfect mat of bluish or gray green. Grows very dense and never changes in color.

JUNIPER-SWEDISH—A small-sized, handsome, pyramidal tree, with silvery green foliage. It is quite hardy. Closely resembling the Irish Juniper.

JUNIPER, TRAILING (Canadensis or Monaspermia)—This is a rather low spreading plant, extending along the surface of the ground, often to a distance of 7 to 8 feet in every direction. The extremities of the branches are usually ascending, but rarely to a greater height than 3 feet. The leaves

are sharp-pointed, gray-green, marked on the upper surface by broad white bands, light silvery beneath. It is a very vigorous, many-stemmed tree, at home on sandy or gravelly hillsides fully exposed to the sun. It grows rapidly but may be kept small by trimming.

NORWAY PINE (Red Pine)—Very ornamental; quite hardy and of vigorous growth; the needles are lustrous green, long and most often in pairs, contrasted by the russet-colored stubby cones. This is the big tree found growing in the forests of Minnesota and Wisconsin. State foresters say this is the best tree for reforesting the cut-over lands of the North. It is free from insect pests.

NORWAY SPRUCE (Picea Excelsa)—A wonderful evergreen for shelterbelt purposes. It grows fast, yet compact and carries its dense growth clear to the ground. The Norway Spruce stands crowding well as in a windbreak or hedge and thrives on almost any kind of soil. It is also a magnificent ornamental evergreen, much used for lawn planting. The Norway Spruce makes a good hedge as it stands pruning well. It is especially recommended for planting either as a windbreak, hedge or ornamental tree in Indiana, Illinois, Missouri, Kansas, the eastern three-fourths of Iowa, and the southern half of Minnesota. Its foliage is dark green with short, stiff needles. Quite an industry has grown up of late years, raising Norway Spruce for Christmas Trees. (See Page 32.)

PINUS MUGHO (Dwarf or Table Mountain Pine)—This is the most beautiful of all dwarf pines. It forms a low round top, and the breadth of the tree is frequently double its height. Foliage bright green. A valuable tree for ornamental planting.

PINUS PONDEROSA (Bull Pine)—A very rapid-growing pine of the Rocky Mountains. The leaves of this pine are very long, 6 to 10 inches, dark green on top and bluish-white underneath. It is highly drought resistant and prized through some sections of Nebraska and Dakota where evergreens are hard to grow.

RED CEDAR—This is the common cedar, native of the Northwest. Fine foliage; broad spreading top, and probably the most durable post or tie timber known. It stands shearing well, and is best known in its clipped form. It is partial to sandy or rocky soil.

SCOTCH PINE—One of the most rugged of all evergreens; a very rapid-growing tree and one which will stand almost any climate.

WHITE PINE—A rapid, upright-growing tree; foliage fine and soft to the touch. The most ornamental of pine trees and excelled by none for timber purposes. Not hardy in dry and wind-swept places. This tree should not be sold west of Central Iowa.

Our Evergreens Are Hardy, Vigorous Growers

WHITE SPRUCE (*Picea Canadensis*)—The White Spruce is native to North America, being found growing as far north as the coasts of the Arctic Ocean. Grows freely on almost any kind of soil but prefers moist to dry situations. It has no superior as a shelterbelt tree as it will grow where other trees cannot. It is especially recommended for shelterbelt in the Middle West,

particularly in Western Iowa and Minnesota and on the wind-swept prairies of Nebraska, North and South Dakota and Montana, where few other kinds of evergreens survive. On account of its beautiful shape, the White Spruce is much used for ornamental purposes. Foliage light green, the branches carry to the ground even when the tree is forty or fifty years old.

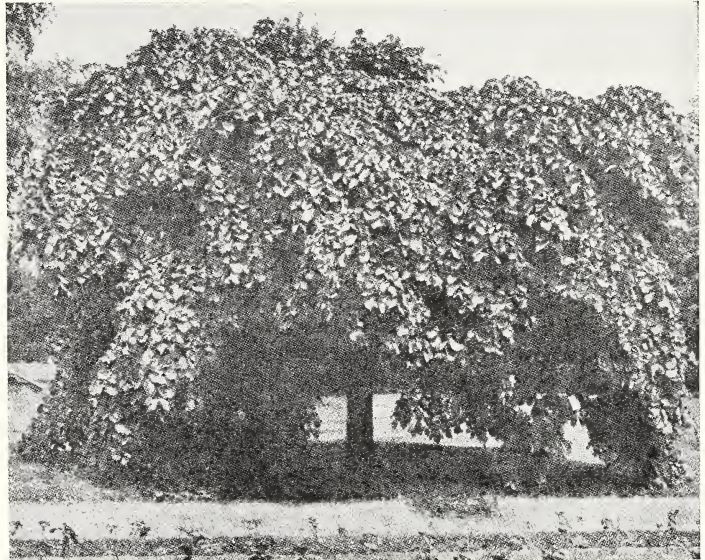
Weeping Trees

CAMPERDOWN ELM —

Grafted 6 to 8 feet high this forms one of the most picturesque drooping trees with umbrella shaped top. It is of rank growth; the shoots often making a zigzag growth outward and downward of several feet in a single season. The leaves are large and dark green, and cover the tree with a luxuriant mass of foliage.

CATALPA BUNGEII

(Umbrella Catalpa) — The large heart-shaped leaves and umbrella-like top of this little tree make it a favorite for lawn planting and formal setting. This is a grafted tree, the top being a special weeping form.



Patten's Weeping Elm

WEeping MOUNTAIN ASH—A pendulous weeper of irregular, rapid growth; sometimes planted in the center of small arbors and trained about them as a vine.

NIOBE WEeping WILLOW—Perfectly hardy and very beautiful; a new golden variety. It grows to a very large tree. Sometimes making a height of 75 to 100 feet with long slender branches 6 to 12 feet, which hang like whip lashes from the limbs; very desirable, especially along the banks of lakes, pools and streams.

PATTEN'S WEeping ELM—This is a sport from the common White Elm in use as street trees. It is of distinct weeping character with low, spreading branches. The old original tree is twenty inches through the body, has a wonderful spreading top ninety feet across, and only thirty-eight feet to the top-most branch. A wonderful shade tree of grace and beauty. We are reproducing this excellent weeping type, by grafting it onto the top of our common

White Elm, ten to twelve feet from the ground and continuing to grow it two years before sending to our customers. It is hardy, admired by all who see it and of special value as a shade and ornamental tree.

TEA'S WEeping MULBERRY—This tree is similar in general appearance and habit of growth to the Kilmarnock Weeping Willow, but it grows much more rapidly and the branches are more drooping. This variety will frequently grow from 5 to 6 feet in a season, and it is nothing uncommon to see the branches trailing on the ground. The leaf is of the same general form as the Russian Mulberry, of which it is a variety. We regard this as the hardiest of all dwarf weepers.

WIER'S CUT-LEAVED MAPLE—This is one of the most beautiful of our hardy trees, having cut or dissected foliage. Its growth is rapid, the shoots slender and drooping, giving it a habit almost as graceful as the Cut-Leaved Birch.

We List Only the Most Dependable Weeping Trees



Shade and Ornamental Trees

SHADE AND ORNAMENTAL TREES

We have used great care in the selection of trees for this class, choosing only such kinds as are distinctive in their shade and ornamental value, for lawn, park and street planting, keeping the assortment well within the list best adapted to this region.

Planting—Do not follow the quite popular practice of squeezing the roots of a fine, healthy tree into a hole half the diameter of root mass; dig the hole a foot or two larger than the roots actually require, so that the new roots can easily penetrate the soil; set the tree and fill in soil as directed (see page 2) and be sure no large lumps of soil are used as these form air pockets, causing almost sure loss. Twenty to forty feet between trees is the proper spacing for elm and the larger spreading varieties, to give them plenty of space when full grown; fifteen to twenty feet for more dense shade during the first few years, cutting out every other one as soon as they commence to crowd. Use on top of ground plenty of well rotted manure or commercial fertilizer for quick results.

ACER GINNALA (Japanese or Amur Maple)
(See Shrub list, page 41.)

ASH (Green or Western White)—Known in the West as White Ash. A native tree of rather slow growth, but of hard, tough fiber. One of the best of timber trees. This

tree thrives better than almost any other tree in dry sections, such as North and South Dakota.

BASSWOOD (American Linden) — A well known, stately tree, large heart-shaped leaves of a pleasing green color. A vigorous grower of pyramidal habit when young but eventually a large, round headed tree. A valuable lawn tree and should be more used for this purpose.

BOX ELDER (*Acer Negundo* or Manitoba Maple)—A low-spreading tree of rapid growth, well adapted to dry and cold climates. One of the best trees for the extreme Northwest.

BIRCH—EUROPEAN WHITE (*Betula-Alba*)
A rapidly growing tree, and when fully developed has snowy-white bark. This tree is practically of the same form as the Cut-leaved Birch, but lacks the pendulous habit of the latter, and also its cut leaves. It is a very desirable tree.

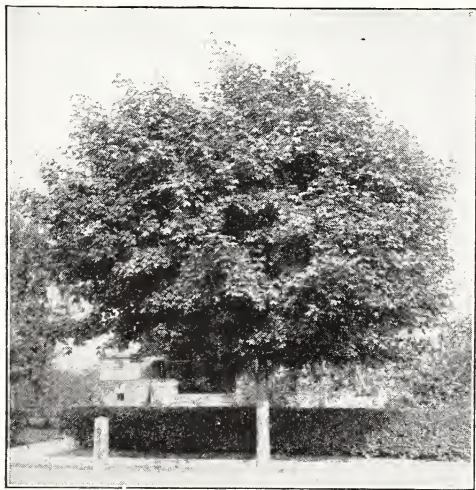
BLACK WALNUT (*Juglans Nigra*)—One of the noblest trees of the American forest. The wood is of well known value for cabinet making and interior finish. It is becoming scarcer annually and in many sections walnut groves are being established for the timber crop.

BUTTERNUT (*Juglans-Cinerea* or White Walnut)—Very much resembles the black walnut. It is a moisture loving tree and succeeds best on low rich soils. The nut is of milder and considered by many, of better quality. A broad, open top tree, with light green compound foliage and gray bark.

CAROLINA POPLAR (*Populus Eugeni*)—One of the most rapidly-growing of our native shade trees. Leaves very large, deep green and glossy. Tree hardy and of much value where a quick screen or shade is wanted.

CATALPA BUNGEI (Umbrella Catalpa)—
(See Weeping Trees, page 35.)

CATALPA SPECIOSA (Western Catalpa)—A very rapidly-growing tree, highly recommended for post timber; leaf heartshaped, light green and very large. Some specimens are not entirely hardy in this latitude. We consider that its principal value here is as an ornamental tree. It bears large trusses of beautiful flowers of light lilac color, sprinkled with brown; very fragrant.



Norway Maple

Venerable Trees Are Monuments to the Thinkers and Planners of Yesterday

DOUBLE FLOWERING CRAB—Most beautiful of all the fine varieties of Flowering Crabs. At a distance the pretty medium-sized tree seems to be covered with dainty little roses of a delicate pink color. Blooms when quite young. Is very fragrant. This is a variety of our native wild crab.

HAZELNUT (*Corylus Americana*)—A vigorous shrub, with numerous upright branches often attaining a height of 8 feet. Large, heart-shaped leaves. Nut edible and enclosed in ruffled husks. The native hazelnut of our forests.

HACKBERRY (*Celtis Occidentalis*)—A rare native tree with numerous slender branches which spread horizontally, and thick, rough bark; apple-like foliage, but more pointed and a bright shiny green; a very desirable tree for street planting.

HARD MAPLE (Sugar Maple or *Acer Saccharinum*)—A beautiful and always popular tree, growing on a smooth trunk and forming a dense, oval head. The foliage is large and handsome and of a rich, pleasing green, turning to beautiful shades of orange-yellow and red in the autumn. It makes a splendid and uniform street tree, and is adapted to nearly all kinds of soil.

HICKORY ELM (*Ulmus Foliacea Suberosa* or Cork Bark Elm)—Tree attains 100 feet with short spreading branches when matured. Forms an oblong rounded top and head. Branchlets with corky wings. One of the finest trees for avenues.

KENTUCKY COFFEE TREE (*Gymnocladus Dioica*)—A very ornamental, hardy tree of upright, rapid growth with rough bark and coarse branches; foliage of a bluish green color; flowers white, followed by long pods. The name coffee tree comes from the fact of the seeds in the pods having been used by early settlers as a substitute for coffee.

LINDEN (*Tilia Americana* or Basswood)—A well known, stately tree, large, heart-shaped leaves of a pleasing green color. A vigorous grower of pyramidal habit when young but eventually a large, round headed tree. A valuable lawn tree and should be more used for this purpose.

LOCUST, BLACK (*Robinia Pseudacacia* or Common)—This is the common form of locust grown through the Central West. Rather a slow-growing, hard-wooded tree, with yellow or white flowers borne in long, pendulous racemes. Flowers fragrant like sweet pea blossoms and the wood where well grown valuable as post timber.

LOCUST, HONEY (*Robinia Gleditsia*)—A rapidly growing tree; delicate foliage of a beautiful, fresh, lively green, and strong thorns; makes an exceedingly handsome, impenetrable and valuable hedge.

LOMBARDY POPLAR (*Populus Nigra Italica*)
A unique and conspicuous tree on account

of its erect columnar form. An extremely rapid grower and for certain purposes in landscape gardening, an indispensable tree. It is remarkably striking and picturesque when grouped with other trees in order to produce an irregular sky-line.

MAPLE, SILVER LEAF, SOFT (*Acer Dasy-carpum*)—A well known ornamental tree, with wide spreading, slender branches. Has been much used as a street tree. Do not confuse with Silver Leaf Poplar.

MOUNTAIN ASH (European) (*Sorbus Aucuparia*)—A fine, hardy tree; head dense and regular; covered from July till winter with great clusters of scarlet berries.

MOUNTAIN ASH, OAK-LEAVED (*Sorbus Quercifolia*)—A hardy tree of fine pyramidal habit. Foliage simple and deeply lobed, resembling the oak; bright green above and downy beneath. One of the finest lawn trees. Bears fruit similar to European.

NORWAY MAPLE (*Acer Platanoides*)—A handsome tree, of fairly rapid growth, forming a dense, rounded head of strong branches and broad, deep green leaves. Sturdy, compact, vigorous. It is one of the very best trees for lawns, parks and gardens.

NORWAY POPLAR—Sometimes called the "Sudden Saw-log". Very hardy, rapid grower. Resembles the Carolina. Planted heavily on prairies and where a quick growing tree is wanted. More desirable than the cottonwood and equally hardy.

OAK, BURR (Mossy Cup) (*Quercus Macrocarpa*)—A native tree of spreading form. Foliage deeply lobed, and the largest and most beautiful among oak leaves. Cup-bearing, acorn fringed and burr-like. Bark corky. One of the noblest of the family.

OAK, PIN (*Quercus Palustris*)—Foliage deep green, finely divided; assumes a drooping form when it acquires age. One of the most valuable. A good grower. Fine for streets.

OAK, RED (*Quercus Rubra*)—An American species, of large size and rapid growth, foliage purplish red in fall. One of the most magnificent trees.

POPLAR-BOLLEANA—A tall narrow-topped tree. Leaves deeply lobed; woolly white beneath. Good for tall screens.

RUSSIAN OLIVE (*Eleagnus Angustifolia*)—The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes, as it grows to a moderate-sized tree if given its own course.

SCHWEDLER'S MAPLE—The young shoots and leaves are of a bright purplish and

crimson color. They change to a purplish green in the older leaves. A most desirable ornamental tree for the contrast of its foliage.

SILVER LEAF POPLAR (*Populus Alba Nivca*)—This tree is valued highly in the dry sections of the Northwest, where it is found to be one of the most hardy of trees. The foliage is very dark on the upper side and silvery white beneath. The tree forms a dense top of moderate size. It is valuable for both shade and windbreak purposes.

SOFT MAPLE (*Acer Dasycarpum*)—(See Silver Leaf.)

WHITE ELM (*Ulmus Americana*)—The native white or water elm of our forests is too well known to require description. The most beautiful of all large shade trees for this climate.

WIER'S CUT LEAF MAPLE—(See Weeping Trees.)

WILLOW, LAUREL LEAVED — Leaves in color, texture and shape resembling the laurel. Tree round-topped and of rapid growth; perfectly hardy. Seldom growing above 30 feet. Considered desirable in Montana and the Dakotas as a wind-break tree.

WILLOW, RUSSIAN GOLDEN—A rapidly-growing willow, with bright yellow bark; very attractive where planted in masses for winter decoration.

WILLOW, PUSSY — Leaves rather broad, light green, covered with hairs, whitish on under surface; opening catkins or flowers very conspicuous in March and April. Small tree with ascending branches.

Hedge Plants

A DISTINCTIVE FEATURE OF THE LAWN

A choice hedge for any location can be chosen from the following list for either a formal clipped type, natural form without clipping, or a defensive thorny type, that will be appropriate for any position.

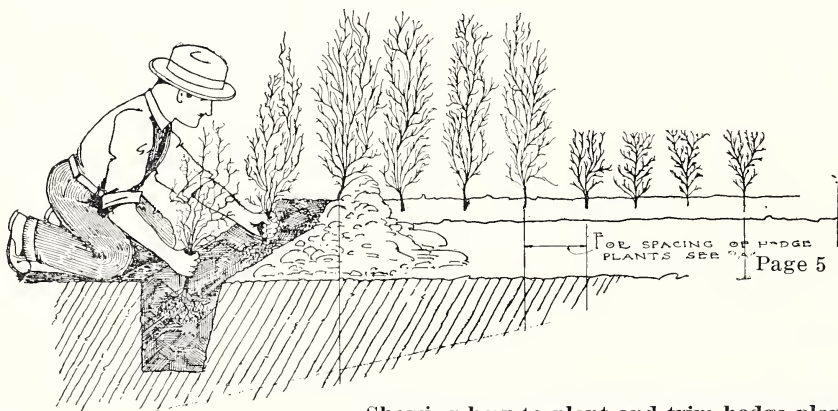
Often a selection as to height is desired. This may also be secured from varieties ranging in final height of a few inches such as Box Barberry to tall screens ten to twelve feet, and even higher.

Hedges of clipped form and where dense growth effect is desired should be planted rather deep so that the point where the first branches leave the stem is just below the ground level. All hedge plants should be trimmed back heavily as soon as set. Cut 12 to 18 inch sizes back to 8 to 12 inches and larger sizes in proportion, and trim heavily the second season. This will force plants to branch freely and keep them dense close to the ground. If this is not done, they are apt to become leggy with only a tuft of green twigs at the top and open beneath.

ALPINE is growing in demand every year and bids fair to become the leading dwarf hedge where a sheared hedge line is desired. It possesses certain elements of superiority which are naturally responsible for this fact. Perfectly hardy in all parts of the North in the most exposed locations.

It is a true drought resister and has been known to pull through the driest summers without watering and maintain a bright, healthy foliage throughout the season.

Alpine is one of the earliest shrubs to break leaf in the spring; and the early frosts of autumn do not affect it. While it does not turn to the brilliant autumn hues of Barberry, the fine green foliage stays on nearly as long, contrasting with the autumn shades of its neighbors. It stands any amount of shearing, and may be held into a border of any shape, and any height from 12 in. to 36 in. Its ideal height for the average lawn hedge is in the neighborhood of 18 inches, either square or rounded.



Showing how to plant and trim hedge plants

We Ship Only Vigorous, Well-Rooted Stock



A Hedge of *Salix Uralensis*

ARALIA PENTAPHYLLA — An attractive shrub with glossy deep green leaves and light gray twigs in winter. Flowers insignificant borne in racemes. Excellent for dry and sandy spots. Flowers yellow. Not hardy north of Central Iowa.

ARBOR VITAE, AMERICAN (*Thuja Occidentalis*, or White Cedar)—This is a thrifty growing tree with bright green foliage, hardy anywhere. It is especially recommended for screens, hedges or windbreaks, as it responds well to trimming.

BARBERRY THUNBERGII (Japanese Barberry)—This variety is very unique, and forms a compact, round-headed shrub about 3 to 3½ feet high. Branches very thorny. It is greatly admired. Not a wheat rust carrier. One of the finest plants for clipped hedges or specimen plants. Leaves are very fine in their fall color and in winter plants are thickly strewn with scarlet berries.

BOX BARBERRY—A dwarf type of the above, attaining about one-half its size in its final growth. Leaves small and very dense, allowing of close clipping. Particularly useful for edgings around formal flower beds, margins of plantings and along walks. Can easily be kept to 6 to 8 inches in height or diameter. Also in our cold

region used to take the place of the Boxwood of the sunnier climes. Clipped as single specimens either round or pyramidal, it is very effective.

BUCKTHORN (4 to 6 feet) June-July—One of the best plants for ornamental hedges. The ovate, dark green leaves are attractive throughout the seasons. Flowers small and inconspicuous. Branches are thorny. The black fruits are about the size of a pea. It stands shearing well and is easily kept trimmed to any desired height and form.

CARAGANA (Siberian Pea Tree)—By some this is catalogued under deciduous trees, but in the North and West it belongs among tall growing shrubs. Its numerous yellow, tapering twigs and very small pinnate leaves are of the same character as those of the Acacias, but much smaller and of a rare golden green color. The flowers are small, yellow, and produced singly or in clusters. A fine shrub for low screens. No plant has gained such a rapid popularity as the Caragana, especially through the semi-arid sections of the Northwest. It seems to thrive in dry seasons, and therefore used quite extensively throughout the West as a snow-catch or low windbreak. It is the one tree which is absolutely impervious to the hot winds or extreme droughts of Montana and Western Dakota.

Hedge Beauty Demands Uniform Stock



Alpine Hedge

COTONEASTER (Acutifolia) (Canadian Privet)—A new addition to the hedge plants of the Northwest. Perfectly hardy. Its glossy, dark green foliage and fine twigs, make it especially adapted as a low ornamental hedge.

ELEAGNUS ANGUSTIFOLIA (Russian Olive)
The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes as it grows to a moderate-sized tree if given its own course.

LILAC, PURPLE—Plant highly recommended by many for use as an ornamental hedge.

PRIVET, AMOOR RIVER (North)—One of the finest for ornamental hedges south of Central Iowa. It holds its leaves until severely cold weather arrives. When grown untrimmed, it is very beautiful, as it blooms freely, producing a profusion of small panicles of white flowers followed by purplish berries that hang on all winter.

PRIVET—CALIFORNIA—A vigorous variety, with fine habit and foliage. Not hardy north of Des Moines, Iowa.

RUSSIAN OLIVE (Elaeagnus Angustifolia)—The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes, as it grows to a moderate-sized tree if given its own course.

SALIX URALENSIS—We are offering something new in hedges—Salix Uralensis. This hedge is a very thrifty and rapid grower. Its olive green foliage and reddish-brown twigs give it an air of individuality not en-

joyed by the common hedges. It looks better when trimmed, but not trimmed it will widen out, keeping about as wide as it is high. Can be kept trimmed from two to six feet in height.

SPIREA FROEBELI—Dwarf, and similar to Anthony Waterer, but a trifle taller, with broader leaves, dull crimson flowers in dense corycombs during the entire summer. Plant very hardy and of drooping habits. Stands drought better than any other spirea.

SPIREA THUNBERGII — A beautiful shrub with numerous slender branches, forming a dense feathery bush 3 to 4 feet tall. Native of China and Japan. Leaves narrow, bright green, fading in autumn with brilliant tones of orange and scarlet. Flowers pure white, appearing in great profusion in earliest spring and covering the plant as with a mantle of snow. One of the last shrubs to shed its foliage.

SPIREA VAN HOUTTEI (Sometimes called Bridal Wreath — A beautiful shrub, growing 4 to 6 feet high. Blossoms in clusters about 1½ to 2 inches in diameter; flowers white and borne in great profusion, frequently covering the plant when in bloom. It is one of the finest shrubs we have for cemetery use, and also makes a beautiful ornamental hedge. It is perfectly hardy as far north as Northern Minnesota.

TARTARIAN HONEYSUCKLE — Pink. This is the best known variety in the western states and with its sub-varieties it can be found in nearly all ornamental plantings. All form vigorous upright shrubs from 8 to 12 feet in height and are valuable for their flower and red ornamental fruit alike. Has pink flowers in May and June.



Barberry Thunbergii Hedge

Alpine Hedge Is Dense, Dwarf and Compact

Shrubs

ACACIA (Rose or Moss Locust, Pink Flowering Locust)—Very low and shrubby, with beautiful, clear pink flowers in loose racemes. All parts of the plant, except the flowers, are bristly or hairy; covered with a fine mossy substance like the moss-rose.

ACER GINNALA (Japanese Maple)—A small spreading tree seldom reaching over 15 feet high. Absolutely hardy. The twigs, leaves, stems and new leaves are all highly colored, giving the tree a brilliant appearance during the spring and early summer months. During late summer it is literally covered with the seed wings which are a bright pink. Its autumn coloring of foliage is brilliant beyond description.

ALPINE—Alpine is growing in demand every year and bids fair to become the leading dwarf hedge where a sheared hedge line is desired. It possesses certain elements of superiority which are naturally responsible for this fact. Perfectly hardy in all parts of the North in the most exposed locations. It is also a tree drought resister, and has been known to pull through the driest summers without watering and maintain a bright, healthy foliage throughout the season. Alpine is one of the earliest shrubs to break leaf in the spring; and the early frosts of autumn do not affect it. While it does not turn to the brilliant autumn hues of Barberry, the fine green foliage stays on nearly as long, contrasting with the autumn shades of its neighbors. It stands any amount of shearing, and may be held into a border of any shape, and any height from 12 inches to 36 inches. Its ideal height for the average lawn hedge is in the neighborhood of 18 inches, either square or rounded.

ALTHEA—Double flowering. There are many varieties of these plants with a great variety of habit. They belong to the Hibiscus family, and are not hardy north of Des Moines, Iowa, except where well protected. They bloom very freely in August and September, and flowers vary much in color among the different varieties.

ASH, WAFER (Hop-tree)—A small tree or shrub, good for massing with coarse shrubbery. Its leaves are trifoliate and glossy green. It is most attractive in late summer or autumn, when large clusters of hop-like fruits are produced.

ARALIA PENTAPHYLLA—
(See Hedge Plants, page 39.)

ARALIA SPINOSA (Devil's Walking Stick, or Hercules' Club)—In the southern states becomes a tree 40 feet high. With us it usually kills to the ground each season and seldom makes over 5 feet growth. Its leaves are very large, often 2 feet long, and very much branched. It is valuable

in ornamental planting for its tropical effect and for the peculiar appearance of its very thorny stumpy growth.

BUFFALO BERRY—A native shrub in the dry sections of both North and South Dakota, and it is also found throughout the Rocky Mountains from Canada to Mexico. The flowers are small and yellow. The berries are a bright red and very sour. The leaves are a downy white on both sides. A peculiar shrub and should be much more grown than it is for ornamental and hedge purposes. Fruit makes fine jelly.

BUTTERFLY BUSH (Buddleia)—Vigorous, erect at first, becoming spreading. Long spikes of mauve colored flowers with bright orange eye.

CALYCANTHUS (Sweet Shrub)—This unique shrub grows rapidly upright, clothing its straight, strong, reddish brown shoots with large, glossy leaves, from the axils of which spring odd, double, spicily fragrant flowers of chocolate-red. The wood also has a peculiar fragrance. It is a hardy native shrub that deserves much wider planting.

CORNUS AMOMUM (Silky Dogwood)—Tall grower, branches purplish. Leaves pale green beneath, usually with brown silky hairs on the veins.

CORNUS ELEGANTISSIMA (Variegated Dogwood)—8 to 10 feet. One of the most desirable shrubs with variegated foliage. The leaves are broadly margined with white and some are almost entirely white. The bark is bright red in winter. A round topped shapely bush. Thickly covered with foliage adapted to shady places.

CORNUS PANICULATA (Gray Dogwood)—This bush is formed of gray branches, making it distinct as to coloring of stems. The flowers are small and white and borne very profusely in great panicles early in spring. It grows quite compact and is covered with white berries in fall, which persist for a long time, making the winter effect very pleasing.

CORNUS SANGUINEA (Bloodtwig) (Red Branched)—The leaves are elegantly marked with white, contrasting finely with the deep blood-red bark; hardy.

CORNUS SIBIRICA (Tartarian Dogwood)—Free-growing, 6 to 10 feet tall, and very hardy; forms a small, handsome tree in some situations. Its clusters of small, white flowers in early summer are very dainty, and its bark is a showy, dark red in spring. All the Siberian Dogwoods bear in early fall a profusion of whitish blue berries, making them distinctly ornamental after the flowers have gone.

CORNUS STOLONIFERA (Red Osier, or Kinkinick)—A medium-sized, spreading

Many Shrubs Bear Attractively Colored Fruits

shrub, with dark red bark and white flowers, followed by white berries.

BECHTEL'S DOUBLE FLOWERING CRAB (Tree Rose)—At a distance the pretty medium-sized tree seems to be covered with dainty little roses of a delicate pink color. Blooms when quite young. Is very fragrant. This is a variety of our native wild crab.

CRAB, SCHEIDECKERI (Double Flowering) Similar in habit and foliage to the type, but has fine double flowers of a light rose-color which last for a long time.

DEUTZIA LEMOINEI—Rather low-growing, has slender, arching branches, foliage bright green 2 to 3 inches long, and narrow. Large clusters of graceful white flowers; freely produced.

DEUTZIA (Pride of Rochester)—A showy, early and large-flowering sort that blooms in May before the others. The flowers are large, double, white, tinted with rose on the outer edge.

DOUBLE-FLOWERING PLUM (*Prunus Tri-loba*)—A native of China. The flowers resemble our Flowering Almond, but are much larger. The clustering of the flowers is also similar, but the tree grows much larger and is hardy. The individual flowers are as large as a half-dollar.

ELDER, CUT-LEAVED—The leaves of this variety are fern-like in formation, and the shrub is of half-drooping habit. One of the finest in cultivation, being especially effective in masses.

ELDER, CUT-LEAVED GOLDEN—A variety of Golden with deeply cut foliage.

ELDER, GOLDEN—5 to 8 feet. Bright, golden yellow leaves, the color being distinct and permanent all summer. Of vigorous spreading habit. One of the best golden foliaged shrubs.

ELDER, RED BERRIED—6 to 8 feet. May. Showy cymes of white flowers, followed by dense clusters of vivid crimson fruits. Shrub very hardy. Native of the Lake Superior region.

EUONYMUS-AMERICANA (Strawberry Bush) One of our native shrubs; it seldom grows over 8 feet high; symmetrical; leaves oblong, dark green and glossy; fruit similar to bittersweet.

EXOCHORDA-GRANDIFLORA (Pearl Bush) A first class shrub, producing its large, dazzling white flowers in May. One of the finest shrubs of its season.

FLOWERING ALMOND—White, a low shrub with leaves similar in shape to our wild plum, but a little more pointed; flowers very double. Flowers in May.

FLOWERING ALMOND—Pink. A charming, low growing shrub which in its season is

covered with double pink flowers. One of the popular shrubs of our grandmother's day.

FORSYTHIA INTERMEDIA (Upright Golden Bell)—Our first shrub to bloom in the spring. Its golden yellow, bell-shaped flowers along the entire stem appear before the leaves, oftentimes blooming as we are getting our last snow flurries. With its mass of golden bloom vying with the Crocus in heralding the arrival of spring it is a striking contrast to its somber surroundings. The hardiest of the Forsythias.

FORSYTHIA SUSPENS (Golden Bell)—Produces long, slender, drooping branches. Very showy when in bloom, especially if trained upon a lattice. Good ground cover for terraces.

HANSEN'S PURPLE PLUM—A small tree. Deep purple leaves and flower buds of same color. Flowers open white. The tree is of moderate size and its principal value is for foliage effect among other trees and shrubs. Very hardy.

HAZELNUT—A vigorous shrub, with numerous upright branches often attaining a height of 8 feet. Large, heart-shaped leaves. Nuts edible and enclosed in ruffled husks. The native Hazelnut of our forests.

HIGH BUSH CRANBERRY (*Viburnum Opulus*, European)—Shrub same general form as our common Snowball. Flowers same type as High Bush Cranberry, but both fruit and flowers borne upright on end of the branches. Fruit deep blood-red in color, and persists throughout the winter. Berries too bitter to use.

HIGH BUSH CRANBERRY (*Viburnum Americanum*)—A hardy native shrub with slender pendulant branches. Flowers are fringed with a row of sterile blossoms like the individual flowers of the snowball. Fruit hangs in clusters. Begins coloring early in summer and when fully ripe, bright scarlet. Fruit hangs pendulant from the branches and is one of the fruits on which the Cedar Wax Wing loves to feed. It is very desirable for jelly in combination with other fruits. The fall coloring of its foliage is very brilliant. Plant free from insects.

HONEYSUCKLE MORROWI—A shrub having drooping branches. The creamy white flowers produced in May are followed by bright red berries during the latter part of the summer. The foliage remains perfectly green after most all other honeysuckles have shed their leaves. Very showy in its fall fruit.

HONEYSUCKLE, RUPRECHTIANA—Very vigorous in growth. Leaves dark green above, gray beneath. Valued for its abundance of bright red fruit in autumn. Also valued for the effective coloring of its twigs, which are reddish brown.

HONEYSUCKLE, TARTARIAN (Pink)—This is the best known variety in the western states and with its sub-varieties it can be found in nearly all ornamental plantings. All form vigorous upright shrubs from 6 to 8 feet in height and are valuable for their flower and red ornamental fruit alike. Has pink flowers in May and June.

HONEYSUCKLE TARTARIAN (White)—The well known white flowering variety. Otherwise similar to the Tartarian Honeysuckle Pink.

HOPA (Red Flowering Crab)—A beautiful ornamental tree for the front lawn on account of its profusion of deep rose crimson blossoms. When in bloom it presents a striking sight. The fruit is rather small, about an inch in diameter and bright red, borne in clusters, making it a thing of beauty. The fruit is not likely to be disturbed by boys as it is rather bitter, but makes a bright colored highly flavored jelly. Perfectly hardy.

HYDRANGEA ARBORESCENS (Hills of Snow)—A late addition to the summer flowering shrubs, coming into bloom after all the early ones have passed away. Its appearance of hills of snow in the middle of summer gives it its name. Does well in the shade. It is a good practice to cut this shrub to the ground early each spring.

HYDRANGEA PANICULATA GRANDIFLORA—Very hardy; grows from 6 to 8 feet high; loaded in August and September with large spikes of flowers, ranging in size from 6 to 12 inches; color white, gradually changing to pink and rose colors. Fine for winter bouquets.

HYDRANGEA—TREE FORM—Same as the above, except that it is grown in standard or tree form.

JAPAN SNOWBALL (Viburnum Tomentosum Plicatum)—Of better habit than the familiar older form, with handsome plicate leaves and more delicately formed, white flowers.

JAPAN QUINCE (Pyrus Japonica)—Has bright scarlet-crimson flowers in great profusion in the early spring. One of the best shrubs in the catalogue. Not quite hardy at Charles City, Iowa.

KERRIA-JAPONICA (Globe Flower)—An attractive shrub with slender green branches, growing about 2 to 3 feet tall. Leaves bright green, sharply toothed. Flowers numerous, single, bright yellow, large and showy. June.

LILAC, CHARLES X.—A strong growing variety with large shining leaves. Loose trusses of reddish purple flowers. One of the best. Single flowering.

LILAC, CHINESE TREE—A large shrub, or small tree, with gracefully arching branch-

es. Tree so thickly branched as to give a massed effect to the foliage and flowers. It bears a profusion of clusters of creamy white flowers. The pistils and stamens are quite prominent, giving the flower clusters a beautiful lacey appearance. The leaves are long and narrow, often not over $\frac{5}{8}$ of an inch across by 3 inches long. The tree is absolutely hardy, and flowers late in the season. In this section is as late as the middle of July.

LILAC, JAPAN TREE—A species from Japan. Leaves thick, pointed, leathery and dark; flowers in very large panicles; creamy white and privet-like. Makes a tree 15 to 20 feet high at Charles City, Iowa, and is desirable because of its distinct foliage and late blooming.

LILAC, JOSIKAEA—8 to 10 feet. From Transylvania. A fine distinct species of vigorous upright growth with dark, shining leaves and violet purple flowers which appear very late, generally after the other lilacs are through blooming. June. Leaves very long, 3 to 5 inches, tapering at both ends, very deep green, leathery and waxy. The shrub is a strong grower and usually balloon shaped. Absolutely hardy.

LILAC, LUDWIG SPAETH—Panicles long. Individual flowers large, single, dark purplish red. A distinct and superb variety. May. 6 to 8 feet.

LILAC, MADAME CASIMIR-PERIER—White flowers in large graceful panicles. A profuse bloomer. One of the very best sorts. Double flowering.

LILAC, MME. LEMOINE—A choice variety of the Lilac, producing long racemes of double, white flowers, lasting longer than the single sorts. A valuable acquisition.

LILAC, MARIE LEGRAYE—One of the low growing types of the better lilacs, blooming in May. Pure white in color. Single blossom. Especially fine and fragrant.

LILAC, MICHEL BUCHNER—Plant dwarf, flower panicle erect and very large; very double, color pale lavender; distinct and fine.

LILAC, PERSIAN PURPLE—A native of Persia; rather a small plant, seldom growing over 6 to 8 feet; foliage small; flowers lavender. A profuse bloomer.

LILAC, PERSIAN WHITE—This rare lilac produces an abundance of white blossoms borne on graceful drooping branches.

LILAC, PRESIDENT GREVY—One of the new desirable lilacs, producing large double rose colored flowers.

LILAC, PURPLE—Plant highly recommended by many for use as an ornamental hedge.

LILAC, ROTHOMAGENSIS—A grand improvement on the common Persian Lilac. The flowers are larger and of a reddish purple color, produced in such great pro-

You Can Have Shrubbery Bloom All Summer

fusion as to almost bend the bush to the ground. Very fragrant.

LILAC, VILLOSA—A new Japanese variety; flowers small, but borne in large clusters. Light purple in bud, white when open. Foliage large and shaped like a plum leaf. This shrub is principally valued for its late flowering, coming some three weeks after the other lilacs, and for the fragrance of its flowers, which is peculiar and very penetrating. This makes a very fine globe shaped plant and very distinct from other sorts.

LILAC, WHITE—The common white lilac.

MAY-DAY TREE (*Prunus Padus Commutata*)

In eastern Siberia and Manchuria there grows a Bird Cherry which is remarkable for being the earliest of all trees to leaf out in the spring. And this tree is truly beautiful when in full bloom, making a huge bouquet of fragrant white flowers borne in long racemes. The individual flowers are fully one-half inch across. A few days later the leaves unfold in all their flossy beauty. Later appears the heavy crop of shining black cherries which are claimed by the birds which appear to prefer them to what we consider better fruit.

As this tree is always in bloom by the first of May it was well named the May Day Tree by the late Professor J. L. Budd of Ames, Iowa, who introduced it. The present stock descends directly from this first importation. Well may the long branches, so thickly set with fragrant flowers, be used for garlands and to crown the Queen of May.

For the lawn the superb beauty of the May Day Tree will please and impress everyone. In addition the tree does not sucker, and so does not make the trouble the native choke cherry does with its multitude of suckers or sprouts from the roots. The tree is perfectly hardy far north up into Canada, owing to its far northern origin in Asia.

PRUNUS PISSARDI (Purple Leaf Plum)—Not hardy. Very similar to Hansen's Purple Plum.

PURPLE FRINGE (Smoke Tree)—Shrub or small tree from the south of Europe. Much admired for its curious fringe, or hair-like flowers and flower stems, that cover the whole surface of the plant in mid-summer, giving it a smokelike appearance.

ROSE ACACIA (*Robinia Hespida*, sometimes known as Moss Locust or Pink Flowering Locust)—Very low and shrubby, with beautiful, clear pink flowers in loose racemes. All parts of the plant, except the flowers, are bristly or hairy; covered with a fine mossy substance like the moss-rose.

RHODOTYPOS KERRIOIDES (Jetbead)—A handsome, distinct and useful shrub. Becomes 4 to 5 feet tall; branches upright; leaves long, pointed, deeply toothed. Flow-

ers white, an inch across. Black nutlets retained throughout the winter.

RUSSIAN OLIVE (*Eleagnus Angustifolia*)—

The foliage is covered with white down, which gives the tree a white appearance when in full leaf. The blossoms are small and very fragrant. The berries are light silvery, dotted thickly with fine brown specks. This tree should be clipped for hedge purposes, as it grows to a moderate-sized tree if given its own course.

SNOWBALL (*Viburnum Opulus Sterilis*)

(Guelder Rose)—A well known favorite shrub of large size, with globular clusters of pure white, sterile flowers the latter part of May. Generally in blossom by Decoration Day.

SNOWBERRY (*Symphoricarpus Mollis*)—

Low, spreading shrub with soft, green foliage, small pinkish flowers, followed by white fruit, often $\frac{3}{8}$ of an inch in diameter.

SNOWBERRY (*Symphoricarpus Racemosus*)

A graceful shrub, 3 to 5 feet tall, with slender branches. Distributed naturally from Canada to North Carolina. Leaves elliptic or broadly ovate, sometimes lobed on the shoots. Flowers white or pinkish, in loose, often leafy racemes, in summer. Berries white, long persistent, produced in showy profuse clusters, the branches bending under their weight. Very ornamental.

SNOWBERRY, RED (or Indian Currant)—

Red-fruited. The berries are reddish purple and hang all winter.

SNOWBERRY, WHITE—A slow-growing

plant, covered in the latter part of the summer and early fall with white berries about $\frac{3}{8}$ inch in diameter. Perfectly hardy. Adapted for shady places. It frequently flowers as late as July 15th.

SPIREA ANTHONY WATERER—Dwarfish

shrub, seldom growing more than 2 feet high. Flowers bright rose color, and borne in great profusion. It begins blooming in June and continues until frost kills the flowers. Very desirable for a border or foundation planting.

SPIREA ARGUTA—A very graceful early

flowering shrub coming into blossom 2 or 3 weeks before the Bridal Wreath. The slender arching branches are clothed with feathery bright green leaves. The blossoms are small and white, completely covering the bush. Beautiful for either foundation, groups or border planting.

SPIREA AUREA (Golden Spirea)—The principal value of this shrub comes from the color of its foliage. It is the most desirable yellow-leaved plant for this latitude.

Blossoms white and borne in profusion. Individual clusters about 2 inches in diameter.

SPIREA BILLARDI—Rose-colored flowers in spikes. In bloom during July and August. Very hardy.

Shrubs Lend An Atmosphere of Permanency

SPIREA BUMALDA—2 to 3 feet. July and August. Dwarf, but vigorous of habit; foliage narrow. Flowers rose color in compact corymbs.

SPIREA CALLOSA ALBA—An upright shrub, becoming 18 inches to 2 feet high. Very profuse bloomer, and continuing in flower throughout the summer. Flowers pure white, in flat topped clusters.

SPIREA CALLOSA RUBRA—A spreading shrub growing about 3 feet high, with large flat-topped clusters of rose colored flowers borne at the end of the stem. Branches not very thickly massed giving the plant a feathery, graceful appearance. This plant should be cut to the ground each spring. The foliage on all new wood is reddish purple, fading to green. A very attractive plant.

SPIREA CRISPIFOLIA—A small plant, much on the order of Anthony Waterer, but lighter in color, both in leaf and flower; one of the hardiest spireas of this type, not injured by drought.

SPIREA FORTUNEI—Dwarf. Becomes about 2 feet high. Branches reddish. Flowers in flat topped clusters, deep pink color.

SPIREA FROEBELI—Dwarf, and similar to Anthony Waterer, but a trifle taller, with broader leaves. Dull crimson flowers in dense corymbs during the entire summer. Plant very hardy and of drooping habits. Stands drought better than any other spirea.

SPIREA OPULIFOLIA—(Nine-bark)—A tall shrub with spreading, often arching branches, growing 8 to 10 feet high. Grows naturally from Canada to Georgia, westward to Kansas. Leaves ovate, deeply lobed, bright green and lustrous. Flowers whitish, in early summer, disposed in numerous clusters along the branches, very showy. The pods assume a bright red color, contrasting strongly with the foliage.

SPIREA ROSEA—A dwarf bush with flat clusters of pink flowers. Blooms in July, continuing to some extent until fall. Should be cut back to the ground, but soon grows up and blooms just as freely each year. Very desirable where a dwarf shrub is wanted.

SPIREA SORBIFOLIA (Ash-Leaved) (False Spirea)—Three to five feet. July. A vigorous growing shrub with large handsome foliage resembling that of a Mountain Ash. The white flowers are borne in elegant long spikes. The foliage appears very early in the spring. A desirable shrub in every way. Sometimes called Fern-Leaved Spirea.

SPIREA SUPERBA—Flower in form like Anthony Waterer. Blossoms much larger and covered with hairy substance. Best adapted to cold climates. Does not stand well in hot, exposed situation. Does well in shady places.

SPIREA THUNBERGII—A beautiful shrub with numerous slender branches, forming a dense feathery bush 3 to 4 feet tall. Native of China and Japan. Leaves narrow, bright green, fading in autumn with brilliant tones of orange and scarlet. Flowers pure white, appearing in great profusion in earliest spring and covering the plant as with a mantle of snow. One of the last shrubs to shed its foliage.

SPIREA VAN HOUTTEI (Bridal Wreath)—A beautiful shrub, growing 4 to 6 feet high. Blossoms in clusters about 1½ to 2 inches in diameter; flowers white and borne in great profusion, frequently covering the plant when in bloom. It is one of the finest shrubs we have for cemetery use, and also makes a beautiful ornamental hedge. It is perfectly hardy as far north as Northern Minnesota.

STRAWBERRY-RASPBERRY (See Vines).

SUMAC, CUT-LEAVED (Rhus Laciniata)—Finely divided, large, fern-like leaves, often 18 inches in length. New wood covered with a mossy growth, similar to the growth on a stag's horn. Leaves dark green above and glaucous beneath, changing to a rich red in autumn.

SUMAC, STAGHORN—A large shrub or small tree, sometimes growing to a height of 10 to 20 feet. This differs from the common Sumac in that the new wood is covered with a fine thorny substance closely resembling the moss on the horns of a stag soon after molting, hence the name.

SUMAC, SMOOTH (Rhus Glabra)—Handsome, pinnate foliage, assuming splendid autumnal coloring. Showy spikes of crimson fruits which hang on all winter. Flowers in June.

SYRINGA CORONARIUS (Sweet Scented)—A vigorous growing, hardy shrub from 6 to 10 feet high; blossoms pure white; a very profuse bloomer.

SYRINGA, GOLDEN—A compact shrub with bright yellow foliage. Very effective as a foliage plant. Showy flowers.

SYRINGA GRANDIFLORA—Has very showy, large flowers, often 1½ inches in diameter. Branches long and frequently loaded to the ground with weight of flowers.

SYRINGA-LEMOINEI—A small shrub rarely attaining a height of more than 4 to 5 feet. Branches slender and bearing in June a profusion of flowers closely resembling the orange blossoms in size, form, color and fragrance, which is very desirable. The fragrance of this plant is so penetrating that a bouquet will fill a whole house with its fragrance.

SYRINGA, OR MOCK ORANGE—A vigorous growing, hardy shrub, from 6 to 8 feet high; blossoms pure white; a very profuse bloomer; have seen this shrub 12 feet high,

Healthy Stock Will Adapt Itself to Soil and Climate

so loaded with bloom that its branches were bent to the ground. Leaf large and dark green.

SYRINGA VIRGINALIS—A magnificent new variety. Sometimes called the double flowering Syringa. The bush grows moderately tall with good foliage. The flowers are the largest, handsomest and most sweetly fragrant of any known variety of Syringa. It also has the longest flowering season.

TAMARIX-ODESSANA—A shrub or small tree of very graceful form, and clothed with soft, feathery, cedar-like foliage. Blooms freely, the branches fairly covered with small spikes of dainty pink flowers.

TAMARIX AFRICANA — Feathery foliage. Bright pink flowers in slender racemes in spring.

THORN APPLE (Crataegus Punctata) (Hawthorn)—A hardy native dwarf tree that is useful for specimen or as an ornamental planting. Very attractive when covered with its flat heads or clusters of white and pink flowers, maturing into red fruits.

VIBURNUM DENTATUM (Arrow Wood)—Showy, glossy green foliage. White flowers in flat cymes, followed by deep, steel blue berries in September. A good plant for shady places. 6 to 8 feet.

VIBURNUM LANTANA (Wayfaring Tree)—Valuable for lawn borders. Soft, heavy, leathery leaves which hang until late in fall. White flowers in May, succeeded by red berries. Height 8 to 12 feet.

VIBURNUM LENTAGO (Nanny-berry) Black Haw—Shrub or small tree, flowers white, in flat topped clusters, 2 to 5 inches broad. Fruit edible, oval, bluish black.

VIBURNUM TOMENTOSUM Plicatum—Rather an upright growing shrub with large green leaves. Flowers in June, pure white, in flat heads, about 4 inches across. A very beautiful and useful shrub in the borders.

WEIGELA, EVA RATHKE—A remarkably free bloomer, flowering continuously throughout the summer, of an entirely distinct color, being a rich ruby carmine, quite different from other varieties. Will bloom freely the first year.

WEIGELA ROSEA—An elegant shrub, with fine bell-shaped, rose-colored flowers. Introduced from China, and considered one of the finest plants. Of erect, compact growth. Blossoms in June.

WEIGELA VARIEGATED—A very attractive shrub growing to a height of about 5 feet with rose colored flowers in June. It makes a thick, dense growth and is particularly attractive throughout the entire season on account of its variegated colored leaves of green, white and yellow.

WHITE FRINGE—A large shrub, frequently a small tree, that grows easily, and is generally desirable. Has dark green leaves and fragrant, drooping, open clusters of white, feathery flowers, succeeded by small, bluish, plum-like fruits.

Roses

The Rose has justly been called the Queen of Flowers. More time, money and people are occupied in its culture, and more pleasure derived from it, than in any other flower. While other plants receive greater attention in certain latitudes and at certain periods, the rose is the universal favorite at all times and in all places.

Outdoor Roses are of the widest importance, as they are within the reach of all, and with judicious selections, will furnish bloom for even a longer period than the hot-house varieties. The average house does not furnish the temperature and facilities for successful rose culture, and so the garden becomes the center of interest for lovers of the flower.

In the North, roses may be enjoyed in almost the same profusion as elsewhere—with the exception of Southern California—provided the few simple conditions necessary for their growth be given them.

Sunlight—The first requisite is plenty of sunlight. It will not do to plant them in a shady place, for the sun is needed to warm the soil and stimulate the root system.

Moisture—The next most important requirement is moisture. This can only be made certain by some provision for irrigating the ground during the dry periods. It can be taken from the water system of the town, or a good cheap plan is to have a tank or reservoir filled from a well by a windmill. Water should be applied by thoroughly soaking the ground so that it is full of moisture, much as a hard rain of several hours would do it. When in bloom the blossoms should not be showered or sprayed too much, but the water should run on the ground in little ditches from one bush to another until it has taken up all that it will. The time to irrigate is before the ground is dry and the plants suffering from thirst. Do not spray the surface of the ground and imagine that the roots have had enough. Be liberal when you do water them and then let them go until they need more. Usually the ground is wet enough early in the spring; but it is sometimes dry at that season, and the roots need a wetting the first thing after they are uncovered. During the month of October do not water the ground, but allow the growth to stop and the wood to ripen for winter.

Growing Your Own Roses Is a Delightful Pastime

Soil—The ideal soil for roses is a good rich clay loam. They will do well in sandy soil if a little clay and plenty of rich manure is mixed with it, and it is then generously watered. They will not do well in hard clay that is impervious to water or in gravel that drains it all away.

Cultivation—This is very important for it helps to stimulate the action of the roots by quickly imparting to them the food and drink that is applied to the ground. After fertilizers are applied they should be cultivated in; and when the ground is irrigated it should be allowed to dry a little on the surface and then stirred to make it fine and loose so as to prevent evaporation and drying out. Surface cultivation should be given the ground at least once a week, from the time the bushes are uncovered until October.

Protection—In late fall, before severe freezing weather sets in, choose a dry time to cover the bushes. See that the ground is thoroughly wet so that the roots will not dry out during the winter, for it will be a long time before they will have another chance to take a drink.

In wintering roses the main thing is to keep the bushes dry. I have found the best way to do this is to first make a bed of dry straw or leaves for the bushes to lie on. It should be six or more inches deep. Bend the bushes over and lay them gently on the bed and cover them with two feet of dry straw, making it highest in the middle, much like the roof of a house. Then cover the straw with boards. Short pieces can be nailed to a ridge pole and to a strip at the lower end, making it quite steep so as to shed water easily; or boards can be used horizontally, by commencing at the base of the straw on each side, lapping the boards an inch and using enough nails to hold them in place. A narrow board at the top can hold the two sides together. Put boards at the end to keep out the wet and to hold the straw in place. Leaves or hay can be used in place of straw. Do not uncover in the spring until freezing weather is over, but uncover before they start their growth. Where there is danger from mice, place poisoned grain (see page 5) in small boxes near the plants where they will find it and where any that may be left in the spring may be burned up when uncovering the plants.

Planting—The best time to plant is in early spring before the bushes have started to grow. They should be set two to three inches deeper than they grew in the nursery. Mud the roots in thick mud before planting and set them very firmly. As soon as set cut branches back to within six inches of the main stem; this is important.

Pruning—Keep all old dead branches cut out. In the spring, prune the tops back to about two-thirds of their length and cut off all the tops that look black or dry back to the fresh buds.

Diseases and Insects—As in everything else the old saying, "An ounce of prevention is worth a pound of cure," holds good in this

case. The best way to prevent disease in rose bushes is to give them good cultivation and do all that is necessary to secure a strong vigorous growth. Disease always attacks the weak more quickly than the strong, and this fact must be carefully borne in mind. Thorough cultivation is absolutely necessary in combatting disease and insects.

For all these pests it is best to be ready and give them their medicine before they have had time to do much damage or increase in numbers. "The early bird catches the worm."

Mildew—Sudden changes of temperature may cause mildew, and it cannot be prevented as it can in the greenhouse. Dusting the bushes with sulphur will assist in preventing it. Keep up the cultivation, furnish moisture, and as the weather grows warm again the plants will revive and outgrow the disease.

The Red Spider—Is most likely to attack the bushes when it is dry and warm. They are very small and are not discovered until they have become numerous. The bushes begin to look unhealthy and the leaves have a sickly appearance and will begin to drop off unless the insects are killed before they have reached the last stages of disease. They can be controlled by spraying with cold water and keeping the bushes quite damp. Morning is the best time in which to do it, and the under part of the leaves requires special attention.

Hybrid Perpetual Roses are the result of the crossing of various types of the old-fashioned hardy perpetual blooming varieties of this and foreign countries, and are more hardy than the Hybrid Teas.

Hybrid Tea Roses, sometimes called monthly ever-blooming roses, are the results of crossing of the Hybrid Perpetual varieties with the class known as Tea Roses such as are used in greenhouses for forcing. This last cross is more productive of flowers but not quite as hardy.

The Hybrid Tea Roses should be protected in winter by mounding up dirt eight or ten inches about each plant and covering as directed under "Protection".

Hybrid Rugosa is a cross of the extremely Hardy Japanese Rugosa Rose with our Hybrid Perpetual varieties. These crosses are usually very hardy and stand the severe winters of Northern Minnesota and the Dakotas.

Distance Apart to Plant—Moss Rose, Harrison Yellow and the Rugosa Roses may be set 2 to 3 feet apart—Hybrid Perpetual and Hybrid Tea varieties, 1½ to 2 feet.

In the list which follows H. P. after the name indicates Hybrid Perpetual; H. T., Hybrid Tea; H. R., Hybrid Rugosa; C., Climbing Roses; and M., Moss varieties.

AFRICAN BLACK — (H. P.) A moderate-growing, hardy, profuse-blooming plant; flowers very dark purplish red, almost black.

AMERICAN PILLAR — (C.) A single-flowering variety of great beauty, which appeals

There Are No Roses Like Your Own

to everyone. The flowers are of enormous size, 3 to 4 inches across, of a lovely shade of pink, with a clear white eye and cluster of yellow stamens. These flowers are borne in immense bunches, and a large plant in full bloom is a sight not easily forgotten. They last in perfection a long time, and are followed by brilliant red berries, which are carried late into the winter; and as the plant frequently retains its lovely green foliage until the end of November, it forms a beautiful decorative subject throughout the autumn months.

BABY RAMBLER—(H. P.) A wonderful little novelty, with large trusses of bright crimson flowers similar to those of *Crimson Rambler*. But instead of climbing, the plants form compact bushes not over eighteen inches high. Strictly a bedding rose, and most desirable in pots. This plant can be potted in the fall after it has shed its leaves, taken inside and flowered in the house.

BABY RAMBLER (White)—(H. P.) Identical with the above except blossoms are an ivory white.

BABY RAMBLER (Pink)—(H. P.) Same as the above except blossoms are pink.

BALTIMORE BELLE—(C.) A little more slender in habit than *Prairie Queen*; flowers freely; color light pink, fading to white. A very beautiful and fragrant Climbing Rose.

COQUETTE DES ALPS—(H. P.) Large, full and well-formed, with very large thick, waxy petals; lovely pure white; fragrant; profuse bloomer; hardy.

CONRAD F. MEYER—(H. R.) Large, elegantly formed buds and flowers, $3\frac{1}{2}$ to 4 inches across and perfectly double; color, silvery pink, very fragrant. Entirely hardy and desirable in every way.

CRESTED MOSS—(M.) Deep pink-colored buds, surrounded with a mossy fringe and crest; free from mildew. A fragrant, very beautiful rose.

CRIMSON RAMBLER—(C.) The famous *Crimson-clustered climber*, so extremely effective when grown on pillars and trellises. Makes shoots 8 to 10 feet long in a season. Flowers are produced, from ground to tip, in large, pyramidal clusters of thirty to forty. Combined with the waxy pale green, red-veined foliage, the crimson mass of bloom makes an irresistible effect.

DOROTHY PERKINS—(C.) Clear, shell-pink, with flowers borne in clusters; full and double, with crinkled petals. The foliage stays on until winter. This is, without question, one of the very finest and hardiest of all climbing roses.

EARL OF DUFFERIN—(H. P.) Rich, dark crimson, shading to maroon; large, full; fragrant; a good grower; one of the best dark roses.

EXCELSA—(C.) The flowers are very double, produced in large clusters of thirty to forty, and almost every eye on a shoot produces clusters. Intense crimson-maroon, the tips of the petals tinged with scarlet.

FRAU KARL DRUSCHKI—(H. P.) The grandest of all white roses. Flowers of immense size, frequently called *White American Beauty*.

F. J. GROOTENDORST—(H. R.) This hybrid is unlike any other *Rugosa* in having the beauty and freedom of bloom of the *Baby Ramblers*, but with the rugged foliage and hardness of the *Rugosa*. It was originated by F. J. Grootendorst, for whom it is named. In luxuriance of bloom, and in sturdiness, this rose has fairly leaped into the greatest popularity. Blooms continually all summer. Splendid for low hedges or edgings.

FLOWER OF FAIRFIELD—(C.) An ever-blooming variety of the *Crimson Rambler*. The color and habit are identical with that variety, with the exception that it blooms the entire season.

GENERAL JACQUEMINOT—(H. P.) Brilliant crimson; not full, but large and extremely effective; fragrant and of excellent hardy habit; forces well.

GRUSS AN TEPLITZ—(H. T.) Scarlet, shading to velvety crimson; very fragrant; a free grower and most profuse bloomer; handsome foliage; especially valuable as a bedding rose.

HANSA—(H. R.) Reddish violet; very double. Absolutely hardy and requires no winter protection.

JOHN HOPPER—(H. P.) Bright rose with carmine center; large and full. A profuse bloomer; hardy.

MRS. AARON WARD—Few roses attract so much attention as this beautiful French introduction. In color it is a distinct shade of Indian-yellow, which, as the flower expands, shades lighter toward the edges, making a splendid color combination, which is more decided in dry than in wet weather, the yellow shading sometimes disappearing almost entirely in extended periods of wet, cold weather; one of the freest-flowering varieties in our collection.

MRS. JOHN LAING—(H. P.) An exceptionally handsome and free-blooming rose, of vigorous growth and fine habit. The color is a soft and delicate shade of pink; the flower is large and well-formed, very fragrant and produced on good stems. A variety of especial value, as it blooms continuously in the open ground.

MADAME CHARLES WOOD—(H. P.) Brilliant red; large and full; of fine form; a fine autumn bloomer.

MADAM GEORGE BRUANT—(H. R.) Flowers large size, semi-double, and produced

Roses Bring the Summer Nearer Home

with remarkable freedom in clusters of five; fragrant buds are beautifully formed, long and pointed. Color pure glistening white.

MADAME PLANTIER—(H. P.) One of the hardiest of white roses and a rank-growing plant; a profuse bloomer; flowers medium size.

MARSHALL P. WILDER—(H. P.) It is of vigorous growth, with healthy foliage; flowers large, semi-globular, full, well formed; color cherry-carmine. It continues to bloom profusely long after others are out of flower. It is undoubtedly the finest of its color.

MAGNA CHARTA—(H. P.) A hybrid that is very fine early in the season. Color bright rose; large and full.

MINNETONKA—(H. T.) The bud is a deep waxy red, but as the petals unfold, the inner side is a deep rose color. The rose is very large and delicate. One of the hardiest of our hybrid sorts.

OPHELIA—(H. T.) Salmon pink, fading to white. Excellent form. Strong grower, free bloomer and a most excellent rose.

PAUL NEYRON—(H. P.) The largest rose in cultivation, sometimes called the Peony Rose; color bright, fresh cerise-red. The plant makes a strong, healthy growth, and has clean, glossy foliage; blooms almost without intermission from June until late October.

PAUL'S SCARLET CLIMBER—(C.) The brightest and purest red of all pillar roses. Vivid scarlet shaded crimson, semi-double flowers in clusters, that retain their color till they fall, never turning blue, the color being intensified by the numerous yellow stamens. A vigorous grower with a profusion of bloom that remains for a long season.

PERSIAN YELLOW—(H. P.) Bright yellow. Small but quite double. Foliage faintly scented.

PINK MOSS—(M.) Deep pink buds surrounded with delicate fringe-like moss. The most beautiful of all the Moss Roses.

PRAIRIE QUEEN—(C.) A well known and much admired climbing rose; a rank grower and profuse bloomer; flowers large, double and red. Have known plants of this variety to have over a thousand blossoms on at one time. One of the best climbing roses for this latitude.

PREMIER—(H. T.) A magnificent variety of large size and distinct character; very deep rose color, the broad roll of the outer petals creating most interesting lights and shadows. It is practically thornless.

RADIANCE—(H. T.) Rosy carmine pink, large, beautiful form; an excellent flower.

RED MOSS—(M.) Stalks, flowers and buds covered with fine thorns, much resembling moss.

ROSA RUGOSA (Red)—(H. R.) Hardiest of all roses. This Japanese rose forms a sturdy bush, 3 to 6 feet high, covered with large, dark green, glossy foliage, crowned with terminal clusters of 10 to 20 flowers, each 3 inches in diameter. Perfectly hardy. A valuable plant for the hardy border, or shrubberies, its large, handsome, scarlet fruits being very ornamental all through the autumn and early winter months. It also makes a splendid hedge, its foliage being impervious to the attacks of insects of all kinds.

ROSA RUGOSA (White)—(H. R.) Same as above except in color.

SEVEN SISTERS—(C.) Named from clusters of flowers which it bears; flowers medium size, light rose color, double. A climbing rose of medium growth.

SIR THOMAS LIPTON—(H. R.) Flowers perfectly double, pure white. Fragrant. Strong and vigorous. The best double white rose in its class.

WHITE MOSS—(M.) Same as red moss, except in color.

WHITE KILLARNEY—(H. T.) Color, pure white; large buds, long and pointed, and blooms profusely throughout the season.

Lilies

The name lily at once suggests the splendor of the gardens of the long ago. Their praise has been sung through the literature of all the ages and today no flower is displayed with greater pride of possession by its owner than the lily.

Light, well drained soil is preferred by this flower; a handful or two of sand under each bulb is a help to them that the bulb may not get soggy. They like to send their roots through this to moist soil below. Give them plenty of water, a top dressing of well rotted manure or commercial fertilizer and they are happy.

Plant in the edges of your shrub border or foundation planting so that the base of the plant at least is partially shaded allowing them to come up through the foliage of the other plants and they will give a striking and showy contrast in color effects. The following list will give a succession of bloom from Decoration Day until frost, and return each spring to brighten your garden. For depth to plant bulbs, see chart on page 58.

AURATUM (Gold Banded Lily)—Blooms July and August. Height 3 feet. Color ivory-white, thickly marked with reddish choco-

Don't Overlook the Climbing Roses

late dots. Immense bell-shaped flowers borne in clusters on long, stiff stalks. The most beautiful and popular variety of all the Lily family and should be in every garden. Plant 8 to 12 inches deep—1 foot apart.

CANNA—Stately and highly ornamental plants, for both flowers and foliage. They attain a height of 2 to 5 feet and may be grown singly or in masses. Leaves green or brownish red; flowers scarlet, crimson, yellow, cream, etc., variously marked. Bloom early July until frost. Cannas must be dug up and kept from frost during the winter. Plant tuber 2 inches deep below surface and 18 inches apart.

CORN—Foliage pale green, very long, slender and pointed. Flowers borne in clusters, and the individual flowers last but for one day. The Lily is salmon color, tinged with red. Perfectly hardy. Blooms July and August. Plant crown of the tuber 2 inches below surface and 8 to 12 inches apart.

FUNKIA ALBA (Day Lily)—This is the common white day lily which we see so often in house culture. The blossoms are trumpet shaped, glossy white in color, and borne in clusters. The plant is hardy here in open ground with but little protection. Blooms July, August and September. Plant crowns 2 inches below surface and 8 to 12 inches apart.

FUNKIA BLUE (Day Lily)—Flowers light blue on showy spikes one to two feet. July and August. Beautiful glossy foliage. Plant crowns 2 inches below surface and 12 inches apart.

LANCIFOLIUM ALBUM—Same as *Lilium Lancifolium Rubrum*, with the exception that the plant is not quite so rank a grower. The flower is a pure waxy white. Perfectly hardy in this latitude. Blooms June-July. Plant 8 to 12 inches deep—1 foot apart.

LANCIFOLIUM RUBRUM—This we think beyond question the hardest of all of the Japanese Lilies. The plant grows to the height of about 18 to 24 inches. Foliage dark green and lance-like, hence the name. Flowers borne in clusters of from five to twenty, pink at margin of petal, deep rose color in center, thickly dotted with brown; petals curling back like petals of the Tiger Lily. We regard it as perfectly hardy. Blooms June, July and August. Plant 8 to 12 inches deep and 1 foot apart.

LEMON—A pretty plant, with long, narrow leaves, and flower stalks 2 to 3 feet high, crowned by beautiful lemon-colored flow-

ers, 3 to 4 inches in diameter; fragrant. Almost always in bloom on Decoration Day. Place crown of plant 2 inches below surface and 8 to 12 inches apart.

LILY OF THE VALLEY—Almost always in bloom on Decoration Day. Height 6 to 10 inches. Heavy dark green foliage, with small, bell-shaped, pure white flowers in pretty racemes, graceful and extremely fragrant. Requires rich, moist soil. Succeeds best in partial shade. Plant crowns 2 inches below surface and 3 inches apart.

REGAL'S LILY—Just yesterday a novelty, but now hailed as an epochal discovery, and permanent fixture. Of rare production and wondrous beauty, achieved through the adventurous research and resourcefulness of one of our greatest plant collectors, who recently brought the original bulbs from the wilds of Northwestern China. Experiments have proven this new lily to be hardier than most kinds; so it is reasonable to expect that the glorious bloom which forces so easily for Easter time, will be as easily available to the amateur for its delightful unfolding within his own home. In fact, its already wide distribution among growers, both amateur and professional, has convinced them of its superiority over other kinds. Many growers predict that Regal Lily will almost entirely supplant the older types of white forcing and garden lilies, within a few years. The flowers are white, slightly suffused with pink; with a beautiful glow of canary yellow at center, which continues part way up the trumpet. Its perfume is exquisite, not oppressively heavy like some types, but with the sweet refreshment of the Jasmine. In the garden, it should bloom early in July, continuing its glorious display well into August. Plant 8 to 12 inches deep and 1 foot apart.

TIGER LILY—Very common; color orange-salmon, spotted dark brown. Stems 3 to 5 feet high. Flowers numerous, nodding, native of China and Japan. Blooms in July and August. Plant 8 inches deep and 1 foot apart.

YUCCA FILAMENTOSA (Common Yucca)—This variety is distinguished from the other Yuccas in that it has threads or filaments along the margins of the leaves. This plant throws up flower-stalks which grow to the height of about 5 to 6 feet, branching in tree form, and when in full bloom are loaded with tulip-shaped, pendulent, white flowers. In this latitude the plant should have a light covering of straw, or some light material, to give the best results. It is better planted on rather dry land.

Vines

How they twine themselves about our homes and our affections. When we study them closely we find three distinct types; those that attach themselves by winding their

bodies about their support as the Bittersweet; those that attach themselves by twining tendrils such as American Ivy (five-leaved) and those that attach themselves to smooth sur-

Old-Fashioned Flowers Bring Treasured Memories

faces by a vacuum similar to the foot of a fly, as does the *Ampelopsis Engelmanni*.

The letters following the description indicate uses that the variety is best adapted to:

- (A)—For porches, fences, trellises or arbors.
- (B)—For large arbors and pergolas where large growth is needed.
- (C)—For rough walls and garden walls.
- (D)—For walls.
- (E)—For ground work on banks.
- (F)—For carpeting under trees.

Plant in any good soil. (See general planting directions on page 2.)

AMPELOPSIS ENGELMANNI (Engleman's Creeper)—A clinging form of American Ivy, but shorter jointed than *Quinquefolia*. A rapid grower, often climbing 10 feet in a single season. The best vine known for covering stone or mason work. This vine clings to mason work by a small pad at the end of tendril which operates like a fly's foot. C and D.

AMPELOPSIS QUINQUEFOLIA (Woodbine)—The common American Ivy, Five-Leaved Ivy, or Virginia Creeper. A, B, C, F.

AMPELOPSIS VEITCHII (Japan Creeper) (Boston Ivy)—Three-lobed leaves smaller than those of the American, and overlap one another, forming a dense sheet of green. The plant is a little tender while young, and requires protection the first winter; but once established there is no further risk. It grows rapidly and clings to wall or fence with the tenacity of ivy; the foliage is very handsome in summer, and changes to crimson-scarlet in autumn. For covering walls, stumps of trees, rockeries, etc., no plant is so useful. For the ornamentation of brick and stone structures, it can be especially recommended. Not recommended north of Iowa. C and D.

BITTERSWEET—A rapid growing, twining vine, with ornamental, light green foliage. The yellow flowers in June are followed by bright yellow and crimson fruits in the autumn. A very desirable plant for covering trees and trellis work; particularly fine for pergolas. A, C, F.

CHINESE MATRIMONY VINE—This is a medium-sized creeper or trailer, attaining a maximum height of 20 feet. The foliage is of a grayish green. The flowers which appear from June to September vary through shades of pink to purple. The fruit which follows is of a deep crimson and very showy. It is borne abundantly along the entire length of the branches. The foliage remains fresh until severe frosts. A, B, C, E.

CHINESE YELLOW HONEYSUCKLE—A showy vine with purplish evergreen foliage. Native of China. Leaves ovate, purple when

young, changing to greener tones at maturity. Flowers white, changing to yellow, sweetly fragrant, freely produced in summer. A, B.

CLEMATIS COCCINEA—Small, bright coral-red; inverted bell-shaped; open but little. Very peculiar. Hardy and attractive. It climbs by twining around objects by its leaf stems. A.

CLEMATIS HENRYI (Winter Clematis)—Creamy white; large and of fine shape; a free grower and bloomer. One of the finest of the large-flowered Clematis. The foliage is very handsome and sets off the white flowers beautifully. A.

CLEMATIS JACKMANII—Flowers, when fully expanded, are 4 to 6 inches in diameter, intense violet-purple, with a rich, velvety appearance, distinctly veined. It blooms continually from July until cut off by frost. A.

CLEMATIS MADAME EDWARD ANDRE—Has been called the Crimson Jackmanii. The plant is a strong, vigorous grower, and very free in bloom. Color a distinct crimson-red. Entirely distinct from all other varieties. A.

CLEMATIS PANICULATA (Sweet Autumn)—Of very rapid growth, quickly covering trellises and arbors with handsome, clean glossy foliage. The flowers are of medium size, fragrant, pure white, borne in immense sheets in September, when very few other vines are in bloom. This plant is hardy without protection. Prefer bright sunny location. A, B, C, D, E.

CLEMATIS RECTA—Flowers white, sweet-scented and in immense masses. Rare and excellent. Plant grows in bush form from 3 to 4 feet. E.

DUTCHMAN'S PIPE (*Aristolochia Sipho*)—A magnificent hardy vine of rapid growth, with very large, heart-shaped leaves and brownish flowers, resembling in shape an old fashioned Dutch pipe. Splendid for archways or verandas, as it is a very rapid grower and forms a dense, cool shade on the hottest summer days. A, B, E.

HALL'S JAPAN HONEYSUCKLE—Deep green foliage, which is almost evergreen through the winter, the fragrant yellow and white flowers blooming until frost. Its flowers are much beloved by humming birds, which can be seen hovering over them all summer. A, B, E.

MOONSEED VINE—A native twining vine, of very rapid growth, with large deep green glossy leaves, closely resembling the English Ivy. The seed pods are shaped like a new moon, hence the name. For covering stumps, stones or twining trees or posts, we know of no finer vine. A, B, F.

STRAWBERRY-RASPBERRY—One of the remarkable recent introductions from Ja-

pan. A beautiful dwarf raspberry, seeming to be a hybrid between the raspberry and strawberry. Fruit is early, bright crimson and enclosed in a mossy cup, stands well out from the foliage and shape of a strawberry. Most highly esteemed for its hardiness. The principal value of this fruit is for ornamental effects. E.

SCARLET TRUMPET HONEYSUCKLE—One of the most desirable of our native twining plants. Foliage glossy and a little on the sage-green order. Flowers trumpet-shaped, about 1½ inches long, with a salmon shade, with red on the inner side of trumpet. Flowers borne in clusters, and continue all summer. A, B, C.

TRUMPET FLOWER (*Bignonia Radicans*)—A vine closely resembling the Wistaria. Flowers borne in small clusters; blossoms 2 inches in length by ¾ inch in diameter. Very showy, but not quite hardy enough for our climate here. A, B, C, D.

WISTARIA-PURPLE—One of the most attractive and rapid growing of all climbing plants; attains an immense size. Has long, pendulous clusters of lavender flowers, resembling sweet peas, in May and June and in autumn. Especially adapted for porch and arbor planting. A, B, C, D.

WISTARIA-WHITE—Same as purple, excepting that the flowers are clear white; bunches short; free blooming. A, B, C, D.

Hardy Herbaceous Perennials

Herbaceous Plants are those having soft stalks, dying down to the root each fall. Hardy Herbaceous Perennials are those which may be allowed to remain permanently in the open ground, their stem and foliage dying each autumn, coming up with renewed vigor the following spring as a result of the increased root system.

This class of flowering plants have a strong appeal to all home makers. Once planted they bring forth a mass of bloom in varied colors and shapes. Their flower stalks ranging from a few inches to several feet in height allow of many choices of locations where they may be used effectively. Use perennials among or in front of the foundation and border planting, in beds along walks and drives, adjacent to trellis, pergola or lawn seats, around the pool, and rock garden.

An occasional enriching of the soil, a little cultivation to destroy the weeds, the removal of the dead stalks in late fall or early spring and these strong, showy robust citizens will come to greet you with the spring showers each year.

Hardiness, minimum amount of care, range of blooming period, beauty, general utility, masses of color in every hue and shade, all belong to the hardy perennials.

For pleasing effects, use several plants of a kind in groups. Dig soil deep and make rich by fertilizing. Space plants at distances of about one-half their height.

ACHILLEA (Yarrow)—Of easiest culture and very valuable for borders and rock work, or in situations refused by more tender plants. Make good carpets in dry places. June to September. One to two feet.

ANEMONE (Windflower)—From anemos—wind. The greater part of this species grow in elevated places where they are much exposed to the wind. Foliage of these plants is of excellent quality. The Anemones divide themselves into the Alpine and Japanese varieties; the Alpine being the spring and summer blooming class, and the Japanese, the fall blooming type.

Alpine Varieties are from six to eighteen inches in height and especially adapted for border planting and for cut flowers. Spring and early summer.

Japanese Varieties—One of the most gorgeous of the hardy garden perennials as well as one of the most useful and desirable, as they bloom from August until frost kills them, filling the garden with beauty at a trying time of the year. These are of inestimable value as cut flowers. August to September. Two to three feet.

ARABIS COMPACTA (Rock Cress)—From Arabia, where it is supposed to have originated. Small trailing perennials grown mostly in rock work and the Alpine garden because of their natural hardihood and their early and profuse flowering habits.

ALPINE COMPACTA—Pure white flowers in dense masses, for edging border, and lovely for cut blooms, lasting a long while in water. Nine inches tall. Blooms April and May.

ASTER (Michaelmas Daisy)—From aster—a star; referring to the general shape of the flower heads. These stand unrivaled for their brilliant shades of color and extreme profusion of bloom during the autumn months. They are invaluable for the border and for cut flowers. Very hardy and easily grown, deservedly the popular perennials that they are. The list of varieties below does not contain any of the weedy sorts:

Perry's Blue—A great beauty. Has much branched, erect dark stems covered with rich lavender-blue flowers standing out alone, the effect being loose pyramidal heads. Three feet. August and September.

Robert Parker—Large sprays of beautiful, large, soft lavender-blue flowers with yellow center; extra fine; a val-

There's a World of Pleasure in Perennials

uable cut flower. Five feet. August and September.

Snowflake—Pure snow-white; very free. 18 inches. August and September.

ANCHUSA (Italica Dropmore)—A great improvement on the old Italian Alkanet; gentian-blue flowers that make it one of the most desirable perennials. Four to five feet. All summer.

AQUILEGIA (Rocky Mountain Columbine)—One foot. July and August. Very large flowers, often four inches across with deep blue sepals and pure white petals and four long recurved spurs. A fine species for the border or base of rockery in well drained loam; also does well in good garden soil.

AQUILEGIA - COLUMBINE (Canadensis)—Very pretty scarlet flowers mixed with yellow, long straight spurs, styles and stamens much protruding. 1 to 2 feet. May to July.

AQUILEGIA - COLUMBINE (Chrysanthea)—Sepals primrose-yellow, spreading horizontally in full expansion, tinted claret at the tip; limb of petals deeper yellow; spur straight and very slender; stems many-flowered. One of the finest of all hardy perennials for the border. 3 to 4 feet. May to July.

AQUILEGIA-COLUMBINE (Long Spurred Hybrid)—A very beautiful hybrid form, with the sepals and petals yellowish or tinged with orange, while the long, slender spurs are orange-red; it is one of the handsomest of all. 2 feet. May to July.

BABY'S BREATH (Gypsophila Paniculata)—A most graceful plant, excellent for the border. Numerous small flowers in feathery panicles. Very useful for cutting. Light pink. July to August. 2 to 3 feet.

BLEEDING HEART (Dycentra Spectabilis)—A hardy perennial with heart-shaped, rose-colored flowers in drooping spikes. One of the best border plants; perfectly hardy and easily cultivated; 2 feet high. Flowers in April or May.

BLEEDING HEART (Everblooming)—Cut fern-leaf foliage, dark green, retains foliage until late in the summer, very beautiful, blossoms profusely during the entire summer. For best results, flowers should be cut when through blossoming. 2 to 3 feet.

BOITONIA (Asteroides)—This very desirable perennial furnishes the garden or border with a great sea of bloom during the last of the summer and fall. Thrives in any ordinary soil. Flower heads pure white, flowers starry. 5 to 6 feet.

CANTERBURY BELL (Campanula Medium)—Beautiful garden plants of easy culture. Flowers bell-shaped in spreading racemes; colors, shades of pink, purple and white, sometimes double. 2 to 3 feet. June to July.

CARDINAL FLOWER—(See Lobelia).

CARPATICA (Blue Hare-Bell)—A pretty compact species, not exceeding eight inches high, flower bells 1 inch in diameter. This is a fine border plant. All summer.

CHRYSANTHEMUMS—We have a splendid assortment of these lovely flowers that are so beautiful in late autumn, white, pink or yellow. 2 to 3 feet. September to October.

COREOPSIS (Golden Wave) (Coreopsis Basalis)—One of the most popular hardy plants. The flowers are a rich golden yellow, of graceful form and invaluable for cutting; the main crop comes during the latter part of June, but it continues in bloom the entire summer and autumn. It succeeds everywhere. 1 to 2 feet.

DIGITALIS (Fox-Glove)—From digitale—the finger of a glove; in allusion to the resemblance the flower bears to the finger of a glove. Prof. Bailey says of them in his encyclopedia: "A fine genus of hardy plants, famous for their long racemes of inflated flowers, which suggest spires or towers of bells. They are old fashioned and dignified, clean of growth and wholesome company in the choicest garden. The strong vertical lines of the flower stalks, rising from rich and luxuriant masses of leaves, give always an appearance of strength to the rambling outlines of the usual herbaceous border and for the two weeks of their bloom usually dominate the whole border." Of the easiest culture and preferring partial shade. 2 to 3 feet. June or early July.

DIGITALIS - GLOXINAEFLORA (Rosea)—Rose-pink spotted. 3 feet. June.

DIGITALIS-GRANDIFLORA—Showy flowers of pale yellow veined brown. 3 feet. June.

DIGITALIS (Maculata Superba)—Flower stalks 18 inches long, covered with a mass of tubular pink flowers with a white throat, grand for massing. 18 inches. June.

FORGET-ME-NOT (M. Palustris)—Very dwarf; flowers bright blue with yellow eye. 6 to 8 inches. May to June.

FOX-GLOVE—(See Digitalis).

GAILLARDIA (Blanket Flower)—Amongst hardy perennial plants, Gaillardias are conspicuous for profusion and duration of bloom. The striking flowers produce a gorgeous effect in the border, and are highly recommended for cut-flower purposes, lasting a long time in water, and being gathered with ample, self-supporting stems. 18 inches to 3 feet. June to November.

GOLDEN GLOW (Rudbeckia Laciniata)—Two to 6 feet. July to September. Very large, double, dahlia-like flowers of a brilliant, golden yellow color. These are borne in great masses surmounting the plant and make it an extremely showy plant.

HIBISCUS—(See Mallow).

HOLLYHOCKS (*Althea Rosea*)—These beautiful, much appreciated flowers make excellent screens and their tall flowering spikes and gay colors make them very decorative. We have them in assorted colors, pink, white, red and yellow. 5 to 8 feet. August.

LARKSPUR (*Delphinium*)—Well known and valuable perennial plants with ornamental foliage. They are all free-flowering and of easy culture. The tall growing sorts are admirable for the back portion of the border and for grouping among shrubs. By preventing the flowers from going to seed, the plants will bloom continually until hard frosts. 2 to 6 feet. June to September.

Belladonna (*Everblooming Hardy Larkspur*)—The most beautiful sky-blue Larkspur of dwarf habit. Makes a grand border plant, producing numerous spikes of large single flowers. Flowers all summer until cut down by frost. Two to six feet.

Chinense (*Grandiflorum* or *Chinese Larkspur*)—Fine feathery foliage and deep gentian blue flowers. 2 feet. June, July and August.

English or Gold Medal Hybrids—Extra choice seedlings. The seed from which we grow our stock of these is procured from the best European specialists and produces the finest spikes of bloom, over 6 feet high with double and single flowers in all shades from the deepest indigo to the palest silvery blue, many possessing shades of pink and white. We furnish strong plants in light or dark blue colors, separate or all colors mixed. June to September.

Formosum—Deep gentian blue with white center; long spikes. 18 inches to 2 feet. June-July.

LOBELIA CARDINALIS (*Indian Pink*) (*Cardinal Flower*)—Flowers vivid crimson; one of the most showy of all native flowers; for the moist border. 2 to 4 feet.

MALLOW (*Hibiscus*)—A very showy plant in any position, but succeeds especially well in damp places. Very large, single, hollyhock-like flowers produced during the entire summer. About 2 to 4 feet. Colors red, pink and white. June to September.

MYRTLE (*Vinca Periwinkle*)—A trailing evergreen with dark, glossy foliage. Good for covering ground under trees or for the rockery. Flowers solitary about 1 inch across, very pretty. 6 to 8 inches. April and June.

ORIENTAL POPPY—Large flowering. The most showy plant for a garden and should be planted early. 3 to 3½ feet. June to July.

PLATYCODON (*Balloon Flower*)—2 feet. July-September. A veritable giant Harebell, forming a dense, branched bush of

upright habit with attractive foliage and from July until September bearing a constant succession of conspicuous, bell-shaped flowers varying in color from pure white to deepest blue. Has also been called "balloon flower" owing to the peculiar formation of the bud.

PYRETHRUM-ULIGINOSUM (*Giant Daisy*)—A very bold and strong-growing species, having a handsome and distinct appearance when covered with a profusion of its daisy-like blossoms. Perfectly hardy and prefers a sheltered position. 4 to 5 feet. May-June.

ROCKY MOUNTAIN COLUMBINE (See *Aquilegia*.)

SHASTA DAISY—Blossoms all summer. Height 12 to 15 inches. Color white. This is a hybrid from Luther Burbank, remarkable for its large size, grace and beauty. The flowers are often 4 inches in diameter with numerous petals which are pure white with a yellow center.

SPIREA FILIPENDULA (*Dropwort*)—Foliage fern-like and dark green. Flowers in large, irregular clusters. Good for the border or rockery. 1 to 2 feet. Cream white blossoms. June and July.

SALVIA (*Blue Sage*)—Very attractive in August and September with its profusion of sky-blue flowers. 1 to 5 feet.

STATICE (*Sorbifolia*) (*Mist Flower*)—A feathery growing plant about 18 to 24 inches in height. Very easy of cultivation and a free grower. The whole plant being covered with tiny white or light blue flowers, the petals of which hang on after plant is withered and dried. Especially useful for mixing with other flowers for bouquets. July to September.

STOKESIA-CYANEA—Flowers blue-lavender, 4 to 5 inches across, in great profusion. 1 foot to 18 inches.

SWEET WILLIAM (*Dianthus*)—18 inches. June-July. Germany. An old flower garden favorite. It sports into endless varieties of color—white, pink, purple, crimson and scarlet, and many sorts variously edged, eyed or spotted.

VALERIANA-RUBRA. A medieval name, said to be derived from *valere*—to be healthy; in allusion to its powerful medical qualities. Linnaeus says it is named after a certain king, Valerius. The Valerian is one of the characteristic plants of old gardens, being prized for the spicy fragrance of its numerous flowers in June and July. Hardy and of the easiest culture. 3 feet.

VERONICA-SPEEDWELL (*Cancerwort*)—A medieval name of doubtful origin, probably from *hiera eicon*—a sacred image; in allusion to the legend of the sacred handkerchief from St. Veronica. A large and much cultivated group of blue-flowered perennials, great favorites in the hardy garden.

Plant Some New Varieties This Year

The taller forms are very pretty border plants, while the more dwarf, spreading forms are well adapted to the rockery. Unexcelled for cutting purposes.

VERONICA-SPICATA—Regarded as one of the better border Speedwells, thriving in an

open soil away from shade; clear blue flowers with purple stamens. 2 to 4 feet. June.

VIOLA (Horned Violet)—A much prized, early bedding plant. Very large violet colored flowers. 5 to 8 inches. April to September.

Dahlias

These summer and autumn-flowering plants are more popular than ever. They should not be planted until the weather has become warm and settled in spring, and should be taken up before severe frosts in autumn. They require a sunny situation and rich soil, to bring out their full beauty. One shoot only should be allowed to each root. Roots should be kept in a warm, dry place during winter. 3 to 6 feet. July to October.

CACTUS DAHLIA—This type of Dahlia is characterized by long, narrow, pointed and twisted petals, giving the layered flower a very striking appearance.

COMMON DAHLIA—This is a well-known plant so common in all old gardens. Flowers borne on stems from 3 to 5 feet high, varying in color from white to deep red, and from single to very double.

PURPLE DAHLIA—The well known plant with purple flowers.

RED DAHLIA—Blood-red; a remarkably free bloomer.

WHITE DAHLIA—A true white; large flowers on strong stems.

YELLOW DAHLIA—Clear primrose-yellow; of fine form.

Gladioli

During recent years, the Gladioli have come into great favor, the numerous blooms starting to open well down the tall spike and opening upward successively, often covering a flowering period of two weeks. Their many shades of color lend variation both in the garden and for cut flowers. 18 inches to 3 feet. June to September.

CHOICE MIXED—Under this heading we are selling a very fine lot of bulbs of our own origination from selected seed. Among them are some of the finest we have ever

seen, ranging in color from almost white to nearly black.

COMMON RED—This is the common Gladiolus so frequently seen in our gardens; flowers borne in one-sided spikes; bright red.

GROFF'S HYBRIDS—These are a strain of Gladiolus originated by Mr. Groff of New York; containing flowers of all sizes and colors, many of them as beautifully marked and mottled as an orchid flower.

Iris

This group of flowers has a host of enthusiastic admirers. They are rivals of the orchid in their wide range of coloring which includes blue, purple, mauve, white, yellow, pink and brown, with their various shades and tinting, many of them of two or more distinct colors. The modest beauty of some, the glorious splendor and haunting fragrance of others, make a strong appeal to all flower lovers.

Plant in a sunny location in any good soil, barely covering the rhizomes (tuberous root) from which the rootlets spring. Do not plant deep. In the following descriptions "Standards" refer to the erect or upright curling petals, the "Falls" to the drooping petals.

GERMAN IRIS—This group blooms early and with wonderful combinations of coloring. Easily distinguished from other Iris by their broad, sword-like leaves. Likes a drier soil than the Japan. 1½ to 3 feet. Late May and June.

ABU HASSAN—The standards are a bright yellow and the falls are bronze.

ALTHEA DEARA—Standards sky-blue. The falls are a little darker color.

FAIRY—Standards ivory, changing to pure white. Falls white with pale violet veining, very fragrant. Dainty and very fine.

L'AVENIER—Lavender, a beautiful shade.

MAY QUEEN—A soft rose lilac, almost pink. A beautiful tall growing variety. 32 inches.

SPECIOSA—Lavender purple, very fragrant.

JAPAN IRIS—Flowers differ from the German Iris in being broad and flat. They exhibit a wonderful variety of colors and shades and appear later than the others. They rank among the most desirable of hardy plants; succeed best in a moist soil. Should have light winter protection from

You'll Be Delighted With These Varieties

Central Iowa north. 2 to 3 feet. June and July.

SIBERIAN IRIS—We regard this as one of the most desirable plants for a border, or for marking lines, etc., known to us. It is very persistent, and will hold its own in blue-grass sod. Foliage long, slender and graceful flowers borne on slender stems about 18 inches to 2 feet high, usually two

or three flowers on a stem. The flowers are a deep, clear purple and very graceful. It is perfectly hardy, and we consider it one of the most desirable of the Iris family. 2 to 3 feet. Late May and June.

SIBERIAN-WHITE—Stems 2 to 3 feet high, with many small white flowers on each stem. A very profuse bloomer. Style of plant same as purple. Season, June.

Peonies

These magnificent plants are among the showiest and choicest in our gardens. They are grand, and, like the roses, are practically indispensable. The fragrance and delicate tints and shades of their beautiful flowers commend them, and, combined with all these noble traits, those we list are absolutely hardy and easily grown.

There are hundreds of varieties of this magnificent plant and while we have several acres of them, we have confined our selection to the pick of the lot, taking into consideration, color and quality of bloom and vigor of plant and foliage, with hardiness holding a predominating place.

Culture—Peonies thrive best in a deep moist loam, well enriched, with full exposure to the sun. The plants should be set two or three inches below the surface of the ground, and are benefited by an annual top-dressing of compost.

AVALANCHE—White. A very large, milk-white flower of perfect form. Base of petals reflects a soft yellow. A few of the central petals are delicately edged with carmine. Strong grower, profuse bloomer, fragrant. Mid-season. Extra fine. 3 to 4 feet.

BARONESS SCHROEDER—White. Plume-shaped flower with irregularly shaped petals, sometimes fringed. Opens delicate blush, changing soon to pure white. Strong grower and free bloomer. Delicate odor. Regarded as one of the world's best peonies. Late. 3 to 4 feet.

CAROLINE MATHER—Bright rosy-red. Has a purplish tint when in full bloom. Mid-season. 3 to 4 feet.

DUCHESS DE NEMOURS—One of the best white peonies, cup shaped flowers, sulphur white with greenish reflections fading to pure white. Early. 3 to 4 feet.

EUGENE VERDIER—Pink. Large flower, rose type. Outer guard petals lilac white, total color effect pale hydrangea pink. Very erect, rather dwarf habit, with extra stout stems. A very fine flower. There has been a good deal of mixup in this variety, many growers having L'Indispensable under this name. We are sending out the genuine Eugene Verdier. Late. 3 to 4 feet.

EDULIS SUPERBA—Bright lavender pink; silvery reflex. Early. Generally in blossom by Decoration Day. 3 to 3½ feet.

FESTIVA MAXIMA—Flowers large, creamy white, with small center of carmine; round, a strong vigorous plant bearing an abundance of flowers; finest of all white peonies and the earliest white. 3 feet.

FRANCIS ORTEGAT—Very dark red, almost purple; large, double compact flower and sweet scented. Early. 3 to 4 feet.

HUMEL—Beautiful bright pink, shading to rose, very large, and one of the best. Late. 3 to 3½ feet.

LAMARTINE—Deep rose-red. Stamens forming a collar of gold around flower. A very distinct and attractive variety. Late. 3 to 3½ feet.

LOUIS VAN HOUTTE—Deep velvety crimson, the richest color of our collection. Medium size flowers, very fragrant. One of the best late reds. Very striking and effective in bouquets. 3 to 3½ feet.

MME. EMILE LEMOINE—White. Semi-rose type. Enormous buds opening into extra large imbricated round flowers that completely hide the bush, each petal overlapping the other, giving the whole flower a very unusually distinctive even shade. Color on first opening glossy white, overlaid with a sheen of tender satiny pink, covered with minute lilac dots. When fully opened it is a pure white. Strong grower and free bloomer; rare and beautiful. Mid-season. 3 to 4 feet.

MODESTE—Deep rose, bright, showy, fragrant. Large full, globular flowers. Late. 3 to 3½ feet.

MONSIEUR JULES ELIE—Pink. Very large compact bomb type. Large guard petals surrounding a great dome of incurved petals. Glossy flesh pink, shading to a deeper rose at the base, the entire bloom covered with a silvery sheen. Strong stems of medium height. Very fragrant. This, in our opinion, is the most beautiful of the bomb shaped peonies. A long keeper. Late. 2 to 3 feet.

PINK—Light fresh pink; fragrant; early. June. 2 to 3 feet.

QUEEN VICTORIA—White. Large full blossom, cream white center, petals tipped with red blotches. Cut flowers last well. Early. 2 to 3 feet.

Our Reputation Is Your Protection

RED—This is the common red peony so well known that it needs no introduction. Perfectly hardy; blooms well under almost any circumstances. June. 2 to 3 feet.

REINE HORTENSE—Pink; very large, compact, semi-rose type. Here is a truly wonderful flower. One of those flowers that when you take a visitor through your field no matter how many good varieties he may see, he will always pick this one as one of the best. Also sold under the name of President Taft. A very tall growing variety, producing lots of large, perfectly formed

flowers on long, stiff stems. Color a uniform hydrangea pink minutely splashed on a white background, with the center prominently flecked crimson. One of the best. Late.

TENUIFOLIA—Rich crimson. This type is the old-fashioned early variety. Coming into bloom several weeks earlier than other sorts. 18 inches to 2 feet.

WHITE—This is the common white peony so well known that it needs no introduction. Perfectly hardy; blooms well under almost any circumstances. June. 2 to 3 feet.

Phlox

With its strong, hardy plants from 12 to 30 inches in height, its large flowers produced in showy spikes or helmets in late summer and early fall, the phlox is not surpassed by any of the late blooming perennials.

Gorgeous in its many shades of coloring ranging from pure white to the deepest reds and purple, it is literally nature's paint brush, brightening up the dull and somber landscape.

For several years we have been gathering from many sources the most showy, many hued varieties of phlox to be found and now have more than five acres of these brilliant colored garden favorites.

For best results, plant several of a kind in a group in separate beds or if they can be backed up by other and taller plants or shrubs, it adds to their gorgeous display. As cut flowers they are wonderful in the home, bringing color, cheer and fragrance. Plant six to eight inches apart for mass effect in any good soil. After the first season they need practically no care other than occasional watering, as they thrive with almost no cultivation, and seem able and willing, as the saying is, to "hoe their own". The Phlox is absolutely hardy anywhere in the Mississippi valley. 12 to 30 inches. Late June until frost.

BARON VON HEECKEREN—Delicate salmon pink.

CHAMPS ELYSEES—Bright rosy-magenta, very effective.

DOUBLE X—Pinkish-lavender with white eye.

DEUTSCHLAND—Brilliant red.

DR. C. H. MAYO—Very large white.

ECLAIREUR—Tall, brilliant rosy-magenta, large lighter halo.

ELIZABETH CAMPBELL—Light salmon, pink center. One of the handsomest.

EUGENE DANZANVILLIER—Lilac, shading white.

H. O. WIJERS—White with red center, very pretty.

HINDENBURG—Crimson red, with darker eye.

JULES SANDEAU—Dwarfish; large flower, pure pink, light center.

MRS. JENKINS—Pure white.

MRS. MILLY VON HOBOKEN—Soft pink.

PROF. VIRCHOW—Bright carmine, overlaid with orange-scarlet.

R. P. STRUTHERS—Rosy-carmine with clar-et eye; very bright, tall growing.

RHEINLANDER—Beautiful salmon pink, deep red eye. Large.

RIJNSTROOM—Deep pink, tall growing.

SIEBOLD—Bright orange-scarlet with crimson eye.



Our Hardy Phlox Plants Thrive in Any Soil

Bulbs for Fall Planting

Sell for FALL Delivery Only

Groups or beds of Crocus, Narcissus (Daffodils), Tulips or Hyacinths, impart to the garden a touch of loveliness and cheer at a time when few other plants have awakened from their winter sleep. There is a magnificent variety of form and color among the bulbs for fall planting, and their culture is the easiest.

A bulb or two here and there give only the minimum of satisfaction but what a fine degree of attractiveness and charm the blending of their various types and colors give to the planting when massed in beds or in front of or among the edges of the shrubbery or perennial border where they may be planted close in as they have generally flowered and gone during the early spring before the other plants have come into full leaf.

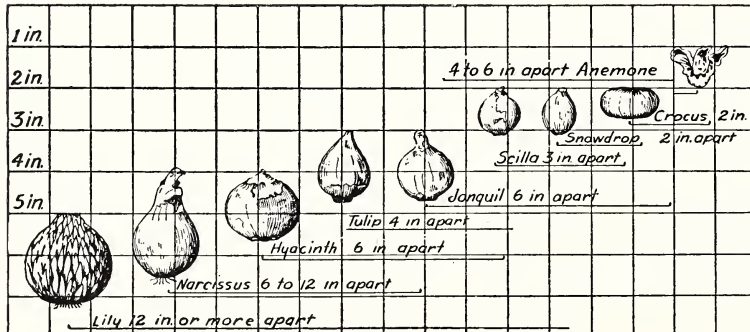
CROCUS—Always a favorite and one of the earliest garden ornaments. Plant about 2

inches deep. Colors blue, white, yellow and striped.

HYACINTHS—For fragrance and beauty of bloom Hyacinths have no equal among bulbs. They do splendidly when planted in formal beds or naturalized in groups, or when grown in pots for indoor blooming.

NARCISSUS (Daffodils) — Pretty varieties, having an agreeable fragrance, adapted either to pots or outdoor culture. On account of their small size, 6 or 8 bulbs can be put in a 6-inch pot.

TULIPS—Bare indeed would many gardens be in the early spring were it not for the tulips. Their gorgeous showing is always a welcome one. Very easily grown. Should be planted in October or November.



Depth to Plant Bulbs

Plant Bulbs for EARLY Spring Flowers

Landscape Department

Our Landscape Department is maintained for the special benefit of our salesmen and our customers.

Landscape Gardening is a highly developed art. Only those who have given the subject considerable study are qualified to successfully practice it.

Landscape Gardening is the art of laying out grounds and arranging trees and shrubbery of suitable kinds so that when they are developed, the whole effect will be pleasing and attractive.

A man who can take a set of buildings on a bare lot and by judicious setting of trees, shrubs and vines, make the whole into a beautiful home, is just as much an artist as one who paints a beautiful picture.

A house may be complete so far as the builder is concerned when it is ready to move into. It may have every modern convenience of heat, light, water and gas, but until the furniture and furnishings are in place inside, and the lawn and shrubbery properly planted outside, it is far from being complete.

A Word to You, Mr. Salesman

Do not attempt landscaping until you "know your stuff". Do not invent "landscape" plans on your own account. On

the following pages we are giving you a series of valuable suggestions which have been especially prepared by our Landscape Department for your guidance. Study these pages carefully. You will find that in many cases there is a plan that will exactly fit the customer's planting problem. If it does not fit, some slight change such as the addition or removal of a shrub in the middle of the plan will generally be sufficient to make it more satisfactory.

Do not hesitate to recommend these plans. Their artistic value has been proven in actual plantings and they are reasonable in cost. Their use will enable you to give your customers landscaping service equal to what they would secure, should they employ the most exclusive landscape gardeners.

Should you have a customer, however, who desires a more complete landscape plan than these suggestions cover, such as having the entire premises planned and planted, or where there are already some parts planted and he wants the balance arranged to match, our Landscape Department is ready to help you with drawings and suggestions. (See our Free Landscape Service Plan on the following page.) Bear in mind that while this service is "Free", better landscape service cannot be gotten anywhere at any price.



Before Planting

After Planting

You Can Have Shrubberty Bloom All Summer

Free Landscape Service Plan

Our Landscape Department will furnish you with a pen and ink sketch or a blue print, of your customer's premises, showing the location of all buildings, walks, drives, etc., together with the proposed location of every tree, shrub and plant to be used and also furnish a planting key and estimate of cost, following as closely as possible every suggestion made by the customer.

For this we make a minimum charge of \$5.00, which must be sent in with the "rough sketch". (See instructions which follow as to how to make a rough sketch.) This charge is made to discourage curiosity seekers, for the \$5.00 is credited to the customer on the purchase price of his order if it amounts to \$50.00 or more, so the service in reality costs nothing.

In case the landscaping is large, involving a great deal of work and the nursery stock required to adequately landscape the premises will amount to \$200.00 or more, we require an advance payment of 10 per cent of the amount. This, however, will be credited on the purchase price at the time of placing the order, so in reality, no charge is being made.

In no case will any charge be made for revising a plan to conform with customer's ideas and suggestions prior to placing the order.

In the case of large estates, parks, cemeteries, etc., our Landscape Department will make no other charge than is indicated in the above schedule, but should the customer wish our Landscape Architect to visit the premises for the purpose of going over the grounds in consultation, a charge will be made to cover his time and expense while away from the office.

THE ROUGH SKETCH

Don't Make Your Sketch Too Small—The Following Suggestions Will Guide You

In order to furnish you with a blue print or a pen and ink sketch of your customer's premises, we need:

First, a "rough sketch" (see the model on this page.) Make one like it of your customer's premises, on any paper that comes handy. Wherever an "X" appears in the sample sketch, measurements should be taken of the customer's premises and filled in on your sketch so that the following dimensions are shown:

Size of the lot—size of the house on all sides—distance of every building from one end and one side of the lot line—location of doors; location of windows; location of all trees now on premises, giving diameter and kind—size of every other building on the lot—indicate the front of the house—indicate which is North.

Walks and drives, whether now in or proposed, should be indicated, giving their width. Also show any planting that is now on the grounds. Indicate whether there are any

parts of the grounds that are to be shut off from view by plantings, and if so, where.

Give width of the parking outside the walk.

Give the kind of soil and whether the grounds are level or terraced, and if terraced, show where and about how high. A general description of the surrounding premises will be of help.

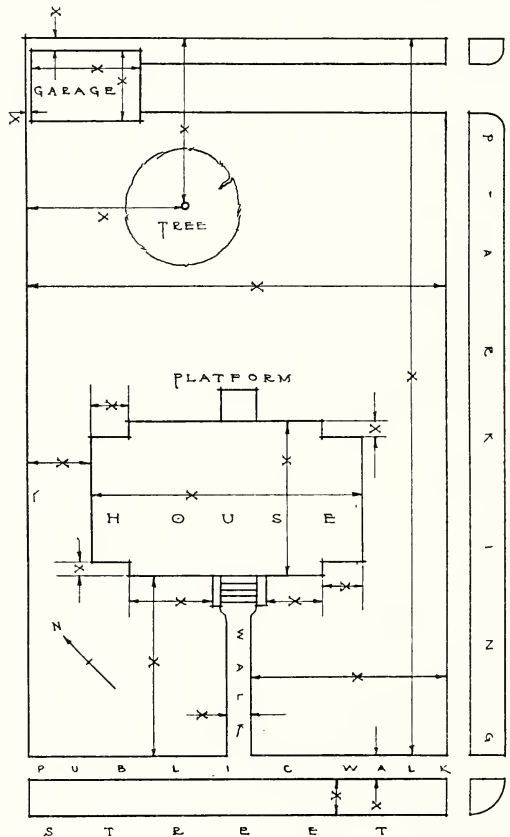
Give the style of house, such as Bungalow, Cottage, Colonial, or Old Style, and show whether it is built of wood, brick, or other building material.

If a hedge, formal garden, fruit or vegetable garden is desired, show where.

If possible, do not forget to send along a snapshot or two of the property.

Be sure to tell us about how much the customer expects to put into the landscaping job, that the architect may be guided in the selection of the best possible and the most possible for the money.

Five to ten per cent of the value of the property is usually considered a fair amount to be set aside for landscaping purposes.



Rough Sketch

Make one similar to the above, with such changes as the customer's situation requires.

Let Nature Finish the Picture



At a glance you cannot help but note how the above home by the addition of a few well selected trees and shrubs fits into its surroundings, while the same house shown at the bottom of this page seems to stand out in all of its nakedness, bare, distant and forbidding, with none of that attractiveness so desirable in the meaning of the word home. The planting arrangement used is that shown under Plan No. 1 on the following page.

LANDSCAPE DESIGNS EASILY ADAPTED TO THE AVERAGE HOME

These suggestions have been supplied by our Landscape Department to enable you to choose the proper shrubs and plants for the individual home.

By referring to pages 76 to 80 which show proper distance apart to set the different kinds, you can easily select number and kinds suited to any needed change. Using Plan No. 2 as an example, the distance from steps to corner of porch is 10 feet. If the similar space on home you are choosing for is three or four feet longer, you may add one *Spirea Van Houttei* next to those shown; if six feet longer, add one *Spirea Van Houttei* and one *Snowberry*. If the distance at the home you are arranging for is shorter, leave out one or more plants.

Always bear in mind that exact distances apart for shrubs and plants is not necessary or even desirable for the most pleasing effects. No one yet has been able to improve on nature's way of grouping trees, shrubs and plants. She makes attractive and beautiful groupings by the scattering of a few seeds here and there which produce the most delightful results, and we humans can only help her by thinning out the imperfect and undesirable trees and plants with an uneven, irregular planting as the result. Use nature's way as your guide.

SUNNY AND SHADY LOCATIONS

Note that for the following plantings, a list of shrubs for sunny and shaded locations

are given. The sunny list should have sun for about half of the day, at least, while the shaded list may not require more than two to five hours of direct sunlight. Watch the north side of your house during the summer months and you will note that the sun will shine very close to the foundation for a few hours each day as it rises north of east and sets north of west. Overhanging eaves that will not allow plants to be watered by the rains should be taken into consideration or watering must be resorted to.

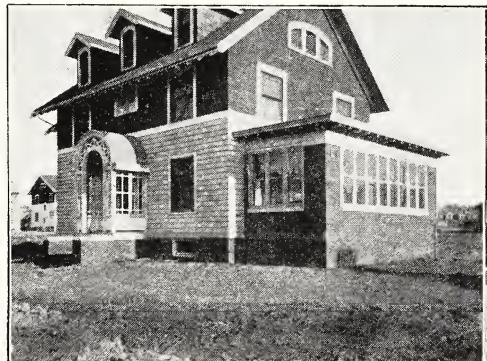
Residences fronting to all four sides of a block give varying exposures as to sunlight. The lists for shaded locations should be used for homes facing north. Use either the shaded or the sunny lists

on the east and west fronts with sunny ones for the south exposures.

In all plantings for small or medium sized grounds the best landscape practice is group planting along lot lines for border effects and along the foundation of dwelling, leaving the lawn free to give an air space and depth and for easier care.

By applying all or parts of the thirteen plans shown on the following pages to your own grounds very desirable results may be obtained at reasonable cost.

With each plan a diagram is shown, together with a list of shrubs used. The letters on the diagram indicate where the plants were set when planted, and the figures indicate the number of each kind used.



Hardy Flowering Shrubs Thrive In Any Soil

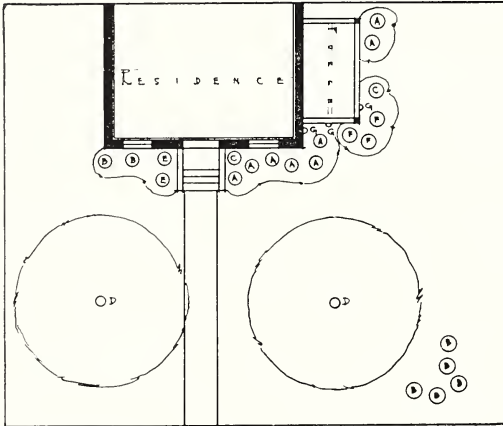
Developing the Home

The thirteen plans shown on this and following pages are typical examples and cover practically all types of residence planting. As the requirements for which you are choosing may vary as to dimensions, exposure, etc., the plans may be slightly changed as explained more in detail on page 61.

FOR FRONT OF HOUSE

(See pages 65 to 68 for rear lawn plantings)

Plan No. 1



The diagram shown at the left is the one that was used for the planting arrangement illustrated in the photograph at the top of page 61, and the varieties are given in the list below. The letters on the diagram indicate where each plant was set when planted, and the figures in the accompanying list the number of each kind used. The photograph on page 61 was taken 2 years after planting.

Letter on Plan	Quantity	KIND OF SHRUBS USED
A	8	Spirea Van Houttei
B	7	Japanese Barberry
C	2	Snowberry
D	2	Maple Trees
E	2	Bush Honeysuckle
F	3	Deutzia Pride of Rochester
G	3	Ampelopsis Veitchii

Plan No. 2—Porch Across Entire Front, Center Entrance

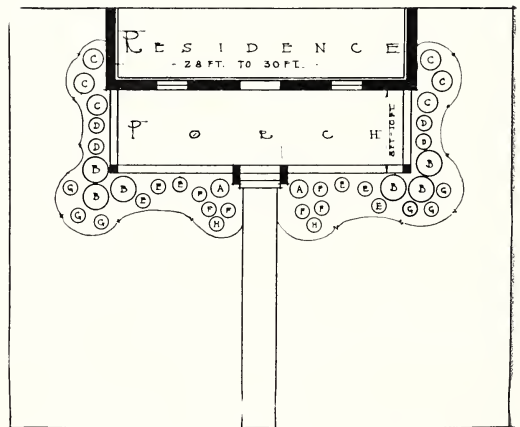
In this instance both sides of entrance may be treated alike to give balance to the planting. The best arrangement for a similar planting is the use of the taller growing shrubs at the corners of the porch and next to the steps with lower ones between and beyond the corners.

SUNNY

Letter on Plan	Quantity	NAME
A	2	Syringa Lemoinei
B	6	Spirea Van Houttei
C	6	Syringa Mock Orange
D	4	Hydrangea Paniculata Grandiflora
E	6	Snowberry, White
F	6	Spirea Froebeli
G	6	Spirea Anthony Waterer
H	2	Yucca Filamentosa

SHADED

A	2	Honeysuckle Morrowi
B	6	Spirea Van Houttei
C	6	Syringa Mock Orange
D	4	Japanese Barberry
E	6	Snowberry, Red
F	6	Spirea Froebeli
G	6	Spirea Callosa Alba
H	2	Yucca Filamentosa



These Are Well-Balanced Collections

Plan No. 3—Porch Partially Across Front

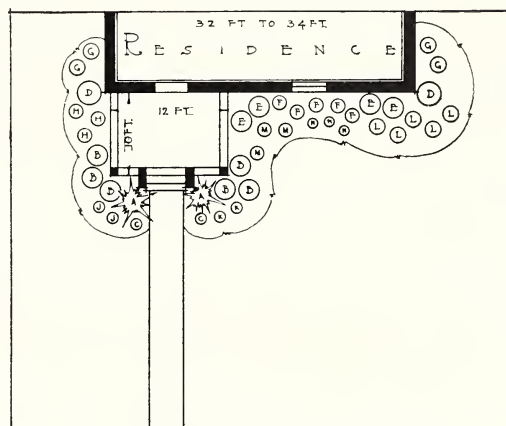
By a planting such as this a balanced effect may be obtained with pleasing results.

SUNNY

Letter on Plan	Quantity	NAME
A	2	Siberian Arbor Vitae
B	6	Japanese Barberry
C	2	Yucca Filamentosa
D	2	Highbush Cranberry
E	4	Syringa Mock Orange
F	5	White Snowberry
G	4	Hydrangea Paniculata Grandiflora
H	3	Forsythia
J	2	Peony, Festiva Maxima
K	2	Peony, Humei
L	5	Spirea Billardi
M	3	Spirea Froebeli
N	3	Spirea Anthony Waterer

SHADED

A	2	Siberian Arbor Vitae
B	6	Japanese Barberry
C	2	Yucca Filamentosa
D	2	Highbush Cranberry
E	4	Rosa Rugosa
F	5	White Snowberry
G	4	Hydrangea Paniculata Grandiflora
H	3	Red Snowberry
J	2	Spirea Bumalda
K	2	Spirea Anthony Waterer
L	5	Spirea Billardi
M	5	Spirea Froebeli
N	3	Spirea Crispifolia



Plan No. 4—Center Entrance Without Porch

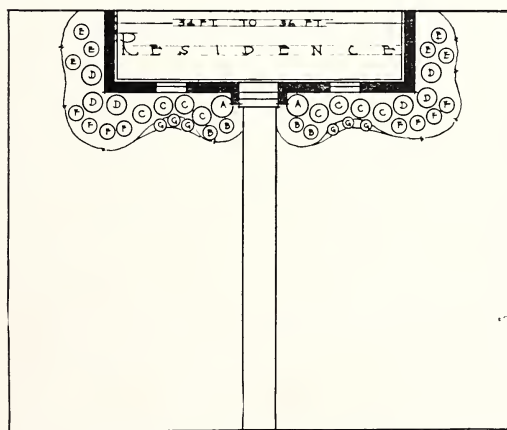
A colonial type of residence with central entrance. Usually in such entrances the door is large and forms the commanding feature. To strengthen this idea, the plantings at either side of the door should be fairly tall with shrubs of similar height at the corners of the house, with connecting shrubs somewhat lower.

SUNNY

Letter on Plan	Quantity	NAME
A	2	Highbush Cranberry
B	4	Spirea Bumalda
C	8	Deutzia, Pride of Rochester
D	6	Spirea Van Houttei
E	6	Symphoricarpus Mollis
F	8	Spirea Froebeli
G	6	Kerria Japonica

SHADED

A	2	Highbush Cranberry
B	4	Spirea Bumalda
C	8	Red Snowberry
D	6	Spirea Van Houttei
E	6	Symphoricarpus Mollis
F	8	Spirea Billardi
G	6	Spirea Anthony Waterer

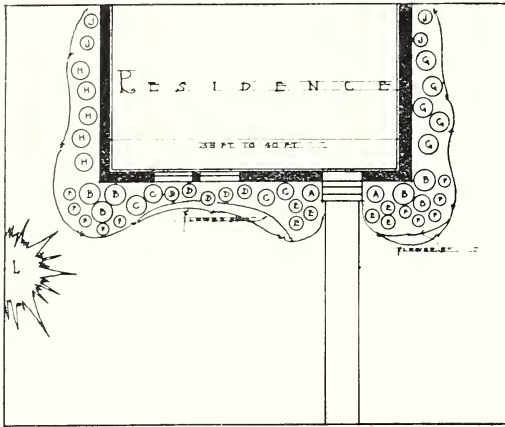


Note—If desired, the two Highbush Cranberry may be changed to two Pyramid Arbor Vitae.

Shrubs Endure for Years—Plant Only the Best

Plan No. 5—No Front Porch, Door to One Side of Center

The planting arrangement herewith handles this very nicely, although with porch omitted from this residence it is rather a difficult one to properly treat.



SUNNY		
Letter on Plan	Quantity	NAME
A	2	Persian Lilac
B	6	Rosa Rugosa
C	4	Hydrangea Arborescens Sterilis
D	5	Symphoricarpus Mollis
E	6	Peony, Selected Pink & White
F	10	Spirea Froebeli
G	5	Honeysuckle Morrowi
H	5	Syringa Lemoinei
J	4	Spirea Sorbifolia
L	1	Colorado Blue Spruce

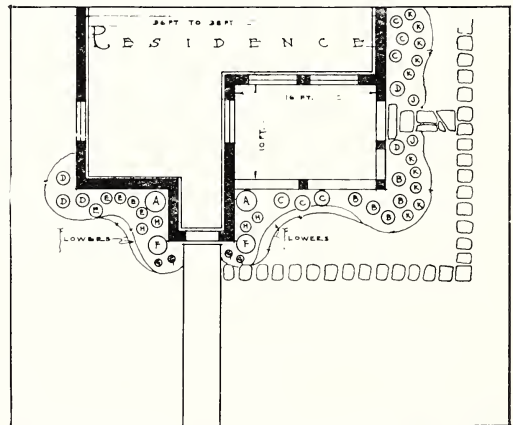
SHADED		
Letter on Plan	Quantity	NAME
A	2	Persian Lilac
B	6	Rosa Rugosa
C	4	Hydrangea Arborescens Sterilis
D	5	Red Snowberry
E	6	Spirea Anthony Waterer
F	10	Spirea Billardi
G	5	Honeysuckle Morrowi
H	5	Japanese Barberry
J	4	Spirea Sorbifolia
L	1	Colorado Blue Spruce

Plan No. 6—Direct Front Entrance With Entrance to Recessed Porch at Side

Very pleasing effects may be obtained for this home by using high shrubs at each side of front entrance and at corners, with lower growing types in front of and to the sides of the tall ones, as indicated on the diagram. The plants listed below are suitable for a house of more refined type of architecture.

SUNNY		
Letter on Plan	Quantity	NAME
A	2	Syringa Coronarius
B	5	Forsythia
C	6	Syringa Lemoinei
D	5	Persian Lilac
E	5	Deutzia, Pride of Rochester
F	2	Flowering Almond
G	4	Spirea Bumalda
H	4	Spirea Froebeli
J	2	Peony Festiva Maxima
K	10	Deutzia, Lemoinei

SHADED		
Letter on Plan	Quantity	NAME
A	2	Syringa Coronarius
B	5	Spirea Sorbifolia
C	6	Syringa Lemoinei
D	5	Honeysuckle Morrowi
E	5	Spirea Froebeli
F	2	Spirea Van Houttei
G	4	Spirea Bumalda
H	4	Jaapnese Barberry
J	2	Yucca Filamentosa
K	10	Spirea Callosa Alba



Good Drainage Is Necessary In Any Soil

Plan No. 7—Colonial Type as to Front Entrance Combined With the More Modern Porch and Garage at Sides

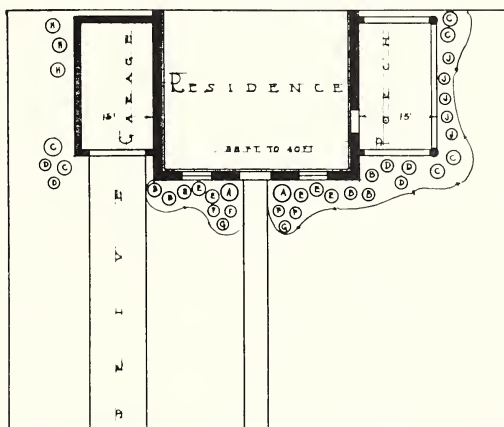
The immediate front should be treated as in Plan No. 3 with slightly lower growing varieties on the porch and garage sides.

SUNNY

Letter on Plan	Quantity	NAME
A	2	Syringa Virginalis
B	5	Spirea Van Houttei
C	6	Hydrangea P. G.
D	5	Japanese Barberry
E	6	Spirea Thunbergii
F	4	Spirea Crispifolia
G	2	Peony Festiva Maxima
H	3	Persian Lilac
J	5	Deutzia, Pride of Rochester

SHADED

A	2	Syringa Virginalis
B	5	Spirea Van Houttei
C	6	Syringa Lemoinei
D	5	Japanese Barberry
E	6	Spirea Thunbergii
F	4	Spirea Bumalda
G	2	Yucca Filamentosa
H	3	Highbush Cranberry
J	5	Honeysuckle Morrowi

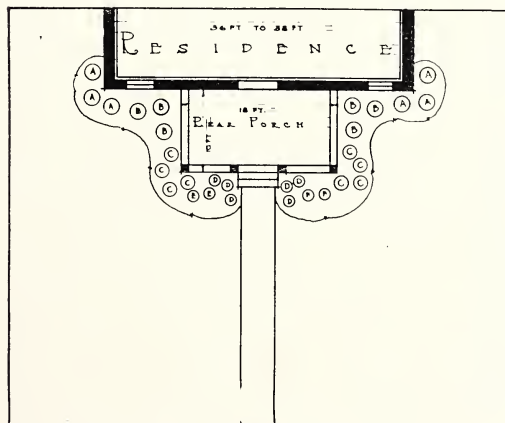


PLANTINGS FOR REAR OF HOUSE

Oftentimes where houses are set close to the street very little planting can be used. In many such cases, the rear of the house is made much of—as a retreat for the family during the hot summer evenings. Plantings somewhat similar to those preceding may be used. If the home has a north or south front sun exposure and varieties of shrubs used will of course be the reverse of those were the opposite side of the home under consideration.

Plan No. 8—Large Rear Porch

In this case the view from street in front may be obstructed by the use of taller shrubs at the corners, with a lower graduation in height as the steps are approached.



SUNNY

Letter on Plan	Quantity	NAME
A	6	Hydrangea P. G.
B	6	Spirea Van Houttei
C	8	Honeysuckle Morrowi
D	6	Spirea Froebeli
E	2	Peony Baroness Schroeder
F	2	Peony Monsieur Jules Elie

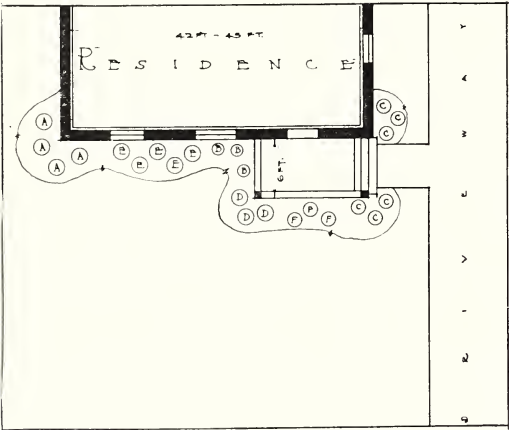
SHADED

A	6	Japanese Barberry
B	6	Cornus Red Branched Dogwood
C	8	Honeysuckle Morrowi
D	6	Spirea Froebeli
E	2	White Snowberry
F	2	Red Snowberry

Some Shrubs Must Have Sunshine, Others Do Well in the Shade

Plan No. 9—Small Uncovered Service Porch

The rear roofless porch setting up eighteen inches to two feet from the ground is often not very attractive. In this plan we have used low shrubs around it to sort of tie it to the ground and to hide the view underneath, and by planting larger shrubs at the left house corner, have added to the effect of lowering the porch as well as screening it from possible street view from that side.



SUNNY		
Letter on Plan	Quantity	NAME
A	4	Persian Lilac
B	3	Rosa Rugosa
C	6	Japanese Barberry
D	3	Syringa Lemoinei
E	5	Hydrangea Arborescens Sterilis
F	3	Spirea Froebeli

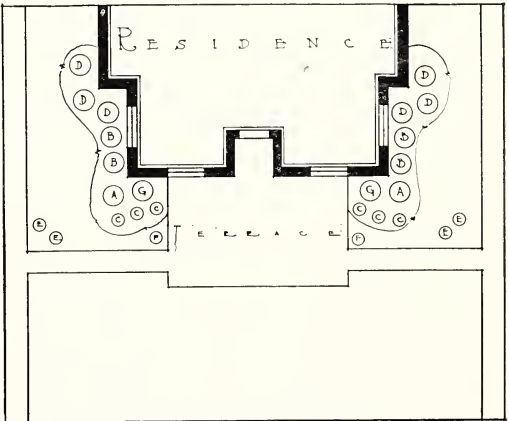
SHADED		
A	4	Highbush Cranberry
B	3	Spirea Van Houttei
C	6	Red Snowberry
D	3	Spirea Sorbifolia
E	5	Honeysuckle Morrowi
F	3	Spirea Froebeli

Plan No. 10—Grade Entrance and Rear Terrace

An ideal arrangement for convenience and one that may, with a little planting, result in a pleasing view of the rear lawn with its flower and shrub border and make an enjoyable and secluded spot. One or two well placed trees for shade add to its usefulness as a retreat from the noise and view of the street. High shrubs at corners of house with lower ones on either side and in front of them give balance and an attractive, pleasing combination.

SUNNY		
Letter on Plan	Quantity	NAME
A	2	Persian Lilac
B	4	Syringa Coronarius
C	6	Deutzia, Pride of Rochester
D	6	Persian Lilac
E	4	Peonies, Selected Varieties
F	2	Yucca Filamentosa
G	2	Spirea Van Houttei

SHADED		
A	2	Highbush Cranberry
B	4	Syringa Mock Orange
C	6	Red Snowberry
D	6	Rosa Rugosa
E	4	Spirea Crispifolia
F	2	Yucca Filamentosa
G	2	Spirea Van Houttei



Your Satisfaction Is Our Success

Plan No. 11—Covered Rear Porch

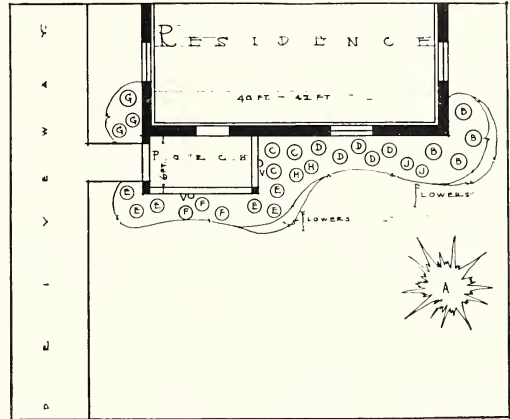
This arrangement may be treated similar to Plan No. 9, but with the added porch covering. Vines of your own selection may be added, and prove very attractive.

SUNNY

Letter on Plan	Quantity	NAME
A	1	Colorado Blue Spruce
B	4	Forsythia
C	3	Syringa Coronarius
D	5	Spirea Van Houttei
E	6	Hydrangea P. G.
F	3	Spirea Sorbifolia
G	3	White Snowberry
V	1	Flower of Fairfield Rose
V	1	Clematis, Selected Variety

SHADED

A	1	Colorado Blue Spruce
B	4	Cornus Red Branched Dogwood
C	3	Tartarian Honeysuckle
D	5	Honeysuckle Morrowi
E	6	Hydrangea P. G.
F	3	Spirea Froebeli
G	3	White Snowberry
V	1	Hall's Japanese Honeysuckle
V	1	Chinese Matrimony Vine



Plan No. 12—Rear Porch With Service Door From Drive

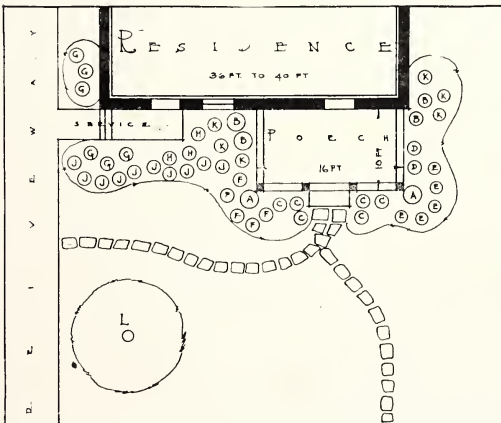
In this grouping, we suggest the taller plants against the building, preserving the vertical lines of the house, while using the lower growing varieties in front of them to fill in open spaces in the taller plants and giving the effect of a gradual sloping to the lawn level. Note the flat stepping stones. A very pleasing and attractive walk in many places—these should be laid level with the ground so as not to interfere with mowing.

SUNNY

Letter on Plan	Quantity	NAME
A	2	Forsythia
B	4	Pink Tartarian Honeysuckle
C	6	Kerria Japonica
D	2	Spirea Sorbifolia
E	5	Spirea Froebeli
F	5	Spirea Thunbergii
G	6	Hydrangea Arborescens Sterilis
H	3	Symphoricarpus Mollis
J	10	Spirea Anthony Waterer
K	6	Honeysuckle Morrowi
L	1	Schedeckeri Crab

SHADED

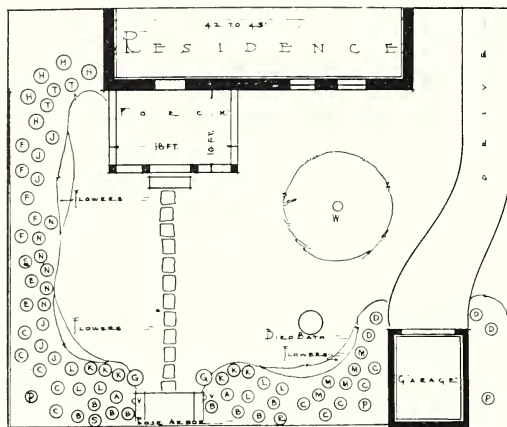
A	2	Spirea Van Houttei
B	4	Snowball
C	6	Japanese Barberry
D	2	Spirea Sorbifolia
E	5	Spirea Fortunei
F	5	Spirea Thunbergii
G	6	Honeysuckle Morrowi
H	3	Red Snowberry
J	10	Spirea Bumalda
K	6	Syringa Lemoinei
L	1	Acer Ginnala



Grow Some of the Uncommon Varieties

Plan No. 13—Live Outdoors During the Summer — Either in Reality or Through the Eye

Here is a suggestion for enjoyable use of the rear lawn, giving privacy to the members of the household. One or two well placed trees for shade allow an exhausted member of the family a cozy privacy from the street—shut off from the view of possible prying neighbors; a place for the children's games; a secluded corner where one may throw down a blanket and commune with the flowers, birds and bees; a little sanctuary of your own, if you please.



Letter on Plan	Quantity	NAME
A	2	Spirea Van Houttei
B	8	Persian Lilac
C	10	Pink Tartarian Honeysuckle
D	4	Cornus Red Branched Dogwood
E	3	Highbush Cranberry
F	5	Syringa Coronarius
G	2	Deutzia, Pride of Rochester
H	5	Common Purple Lilac
J	6	Hydrangea Arborescens Sterilis
K	6	Spirea Bumalda
L	6	Spirea Thunbergii
M	5	Spirea Sorbifolia
N	6	Japanese Barberry
P	3	Lombardy Poplar
R	1	Schedeckeri Crab
S	1	Hansen's Purple Plum
T	3	White Snowberry
V	2	Flower of Fairfield (Climbing Rose)
W	1	Mountain Ash

SUGGESTIONS FOR PERENNIAL PLANTINGS

In perennial plantings think of them in groups rather than as single plants.

It is well to bear in mind that such plantings, as a general rule, should be made by the grouping together of several plants of the same kind. In no other way can the desired effect be brought about. During your trips into the country, note how nature has grouped the wild perennials—a dash of yellow buttercups here, a group of wild asters by the roadside, or a clump of goldenrod in its golden mass, catching and holding the eye.

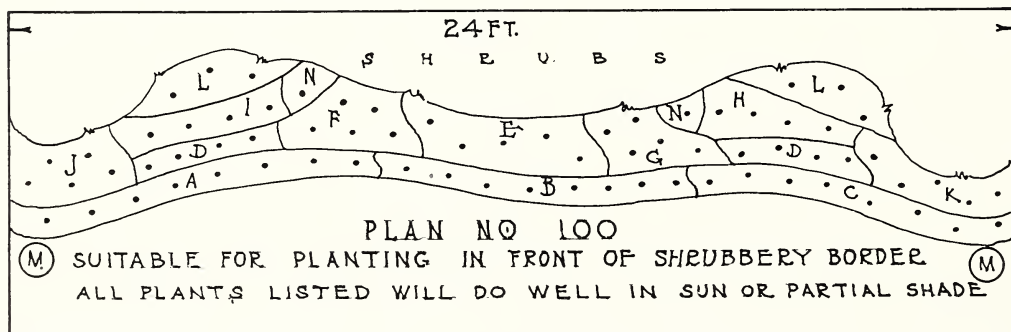
As examples in the arranging of perennial plants, we show in the following diagrams the proper spacing and suggested arrangement as in Plan No. 100.

Plan No. 101 may in many cases be desirable along a driveway.

Plan No. 102—Is a good suggestion of how a perennial planting may be worked out for a corner of the yard or a recess in the foundation arrangement.

Plan No. 103—A grouping of perennials with path between may be used to connect the flower garden with some main walk from the residence.

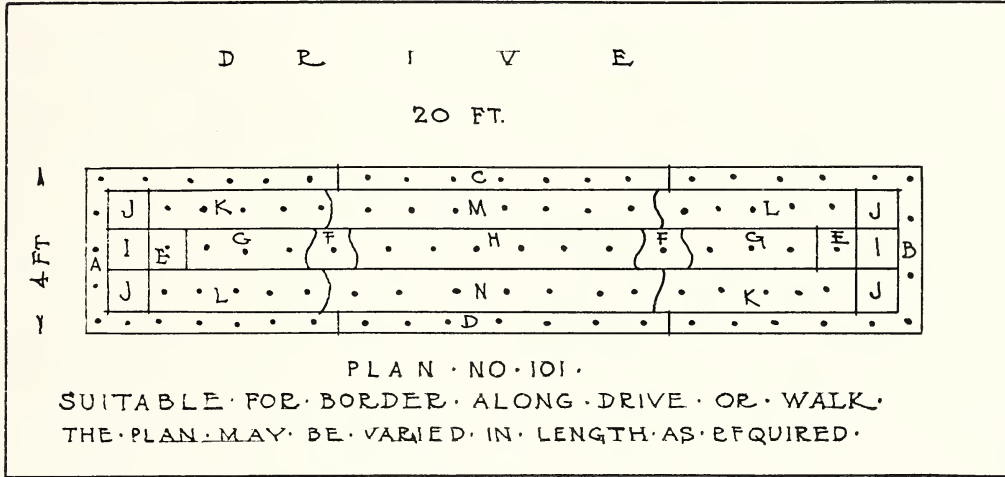
Plan No. 104—Narrow borders that may be arranged to meet varying conditions such as trim or margins for a flower garden, a dividing line between the lawn and vegetable or flower garden and the like.



Our Assistance in Choosing, Selecting and Arranging IS FREE. Ask for it.

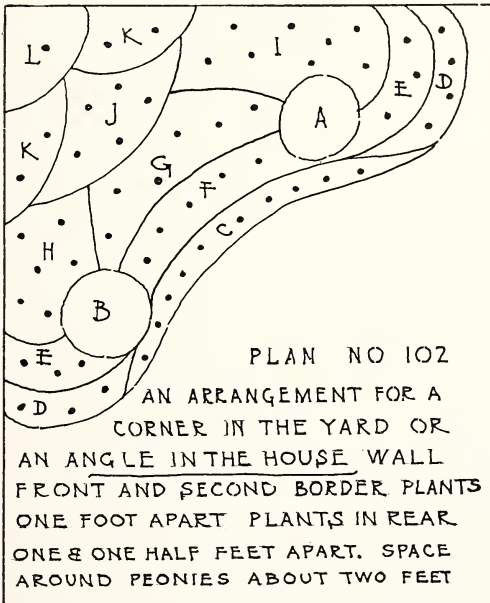
Planting List for Plan No. 100

Letter on Plan	Quantity	NAME	Letter on Plan	Quantity	NAME
A	8	Sweet William (various)	H	4	Coreopsis (yellow)
B	8	Achillea (white)	I	4	Platycodon (blue)
C	8	Forget-me-not (blue)	J	5	Phlox, R.P. Struthers (rosy-car.)
D	8	Shasta Daisy (white)	K	5	Phlox, Rheinl'der (salmon-pink)
E	5	Delphinium (Larkspur)	L	6	Hollyhocks (pink)
F	5	Iris (German) purple	M	2	Yucca Filamentosa
G	5	Iris (German) yellow	N	2	Giant Daisy (white)



Planting List for Plan No. 101

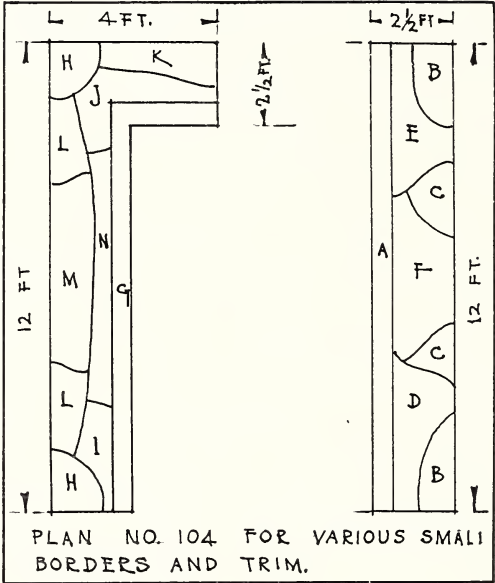
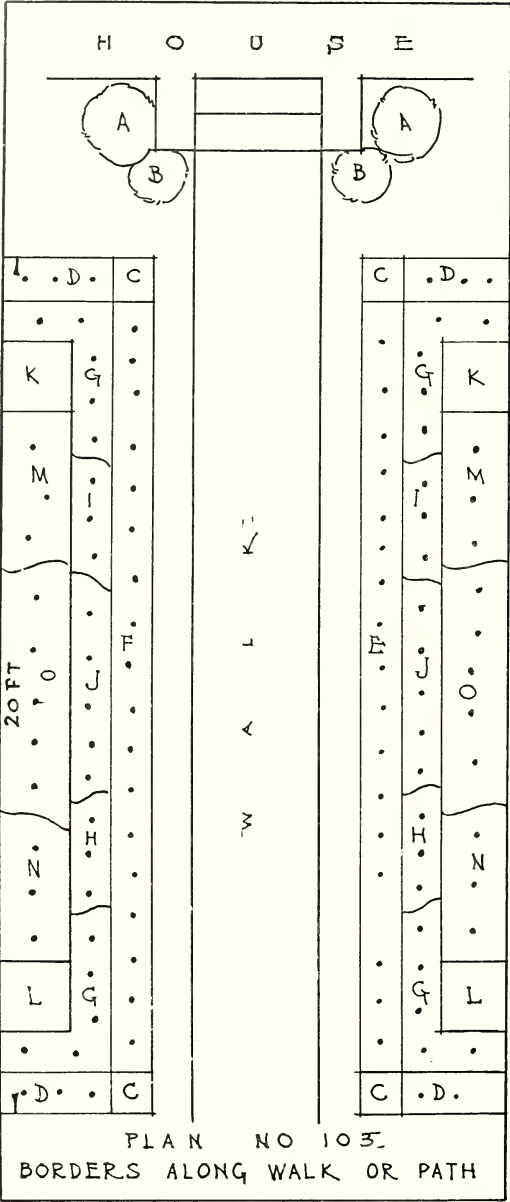
Letter on Plan	Quantity	NAME	Letter on Plan	Quantity	NAME
A	14	Forget-me-not (blue)	E	2	Funkia (White Day Lily)
B	14	Sweet William (various)	F	2	Tiger Lily (orange)
C	7	Coreopsis (yellow)	G	6	Delphinium (Larkspur)
D	7	Columbine (yellow)	H	6	Hollyhocks (rosy-pink)
			I	2	Achillea (white)
			J	4	Yucca Filamentosa
			K	10	German Iris (purple)
			L	10	German Iris (yellow)
			M	7	Phlox, Mrs. Jenkins (white)
			N	7	Phlox, Eliz. Campbell (pink)



Planting List for Plan No. 102

Letter on Plan	Quantity	NAME
A	1	Peony Festiva Maxima
B	1	Peony Humei
C	10	Iris, German (yellow)
D	8	Iris, German (purple)
E	6	Platycodon (blue)
F	5	Shasta Daisy (white)
G	6	Phlox, Chas. H. Mayo (white)
H	6	Phlox, Ryndstrom (pink)
I	8	Phlox, R.P. Struthers (rosy-car.)
J	5	Delphinium (Larkspur) blue
K	4	Hollyhocks (pink-rose)
L	1	Golden Glow (yellow)

Pay Cash and Get a Premium With Your Order



Planting List for Plan No. 104

Letter on Plan	Quantity	NAME
A	12	Viola (purple)
B	2	Bleeding Heart (pink)
C	2	Giant Daisy (white)
D	5	Phlox Rheinlander (salmon)
E	5	Phlox E. Danzanvilliers (lilac)
F	5	Delphinium (blue)
G	12	Siberian Iris (yellow & purple)
H	2	Spirea Filipendula (white)
I	3	Gaillardia (orange red)
J	5	Coreopsis (yellow)
K	3	Salvia Azurea (blue)
L	4	Lemon Lily (yellow)
M	5	Hollyhocks (pink rose)
N	6	Shasta Daisy (white)

Planting List for Plan No. 103

Letter on Plan	Quantity	NAME	Letter on Plan	Quantity	NAME
A	2	Peony Reine Hortense (pink)	H	6	Aquilegia (Canadensis)
B	2	Funkia (white)	I	6	Aquilegia (Chrysantha)
C	4	Regal Lily	J	10	Shasta Daisy (white)
D	12	Oriental Poppy	K	2	Peony Avalanche (white)
E	18	German Iris (purple)	L	2	Peony Baroness Sch'd'r (white)
F	18	German Iris (yellow)	M	6	Larkspur (blue)
G	20	Phlox, Elizabeth Campbell (pink)	N	6	Platycodon (blue)
			O	10	Hollyhocks (rosy-pink)

A Selection of Perennials Gives All Summer Bloom

Salesman's Manual

TO OUR SALESMEN:

Realizing that the foundation of all salesmanship is a thorough understanding and knowledge of the merchandise handled, we have published this book that you may, if a slang phrase is permitted, "**Know your stuff**". You cannot learn it all this week or next month, but you can study this material and **at least be able**, when questions are put to you, **to know where to find the answers**.

Before you can expect to become a successful salesman, you must be able to answer, at least, a large percentage of the questions put to you by your prospective customers. They are going to want information and as SERVICE is the binding material of salesmanship, you must be able to serve by supplying this information.

Getting new customers and resales to old ones, is the salesman's task. Our task is to assist him in this by giving, at a fair price: more careful packing, together with better grades and quality of stock than our competitors, with liberal adjustments if any question or misunderstandings arise.

If you expect to devote ten hours a day of your time to this work, thirty minutes of it spent each day in familiarizing yourself with your line will enable you to make more sales in nine and a half hours and to better serve your customers, than if you spent ten hours trying to make sales without preparation.

We have spent many months gathering the material for this book. It is the boiled down experience of hundreds of successful nurserymen. The descriptions given of different trees and plants have been compiled only after careful comparisons of the descriptions as given by the world's highest authorities. We have aimed to make it the best, the most complete and most reliable information ever placed in the hands of nursery salesmen. **READ IT. STUDY IT. USE IT.** Make it a part of you, so that your customers may truly be able to say of you, "He certainly knows his stuff."

As our representative, your customers are going to look to you for expert advice on such matters as follows:

How to plan landscaping for homes or public buildings.

How to locate, plant and care for shelterbelts.

What fruits are suited to their locality and how to raise them.

When to spray and what to use as a spray for different pests.

How to protect trees and shrubs from sunscald, frost, rabbits, etc.

When different shrubs blossom, how high they grow, etc.

All of these, and many others, you will find discussed on the pages that follow.

Spend that half hour a day in studying this booklet and other literature which you are

furnished so you may give to your customers, not only a copy of his order when sales are completed, but a real fund of information and assistance. He will then be glad to see you the next time you call.

Every member of the firm and employee at this end of the line will try and so do their part, that the customer's mind will be so full of satisfaction and confidence in you and your firm that your next sale will be simply a matter of selection of items most suited to their needs.

WHY PLANTERS SUCCEED WITH OUR TREES

As the first or purchase price of a tree or shrub is the smallest part of its cost and if it turns out to be worthless, the few cents saved on the cost price will not repay the planter for his labor and disappointment; especially when you consider that for a few cents more a good tree might have been bought, it is well for you to be able to inform the prospective buyer of nursery stock why and in what respects our goods are better.

In our more than sixty years' experience in the nursery business, we have been repeatedly asked the question, "What reasons have you for claiming your stock is superior to that of other firms?" Starting at the source of all plant life, the seed, root or cutting from which it is produced; the ancestry of such seed, root or cutting, is the first important factor, the same as the ancestry and environment of a human being has a bearing on what that individual may develop into and how many hard knocks he or she will stand.

In the early history of our firm, we commenced to choose and select the most thrifty and hardy specimens of individual varieties of trees and plants from which to propagate or produce the thousands of their children that were to follow.

Various sections of the United States, such as the cold, severe climates of our northern latitudes, the rugged slopes of the Rocky Mountains, the great semi-arid sections of our Western plains, the mountainous coast range of the Northeastern states, the most trying sections of Europe, the great expanses of the plains and mountains of Japan, China, Russia, Siberia and the Scandinavian countries, have all furnished their quota of trees and plants of vigor and hardiness that you, Mr. Salesman, might have the most complete assortment of hardy trees and plants to offer your customers that have ever been assembled by any one firm.

The names and descriptions in this catalog will give you many hints as to the source of the original plants of many varieties; for instance, Black Hills Spruce from the Black Hills of South Dakota; Colorado Blue Spruce from the Rocky Mountains of Colorado; Japan Tree Lilac from Japan; Siberian Arbor Vitae from the plains of Siberia. Norway Poplar and Russian Olive also show their source;

Information Will Help You Make Sales

Patten Pear, one of its original parents was the Chinese sand pear, a wild thorny type which laid the foundation for more than thirty years' work and study in the crossing of this variety with our highly flavored but more tender varieties. The results are worth the effort; fine pears can now be grown three hundred miles farther north. These are only a few of the instances of the source of the original supply which after years of choosing, selecting and adapting to the climatic conditions of the Middle West, enable us to give your customer this varied selection of types and varieties of trees and plants to beautify his home.

Recently we put the following question to a professor of one of our Middle Western Agricultural Colleges: "In your opinion is the saving of hardy Northern grown seed for the growing of seedling apple trees, on which our different varieties are grafted, of any special value to the planter?" He replied, "Most certainly. In 1924 we planted at the college farm, plots of one-year-old seedlings of French Crab, Vermont Crab and Northern grown seedlings. The seed for the latter was saved from such hardy varieties as Patten Greening, Wealthy, Hybernal, etc. The freeze of October, 1925, caught all of these under equal conditions of soil, culture, etc. An examination of the trees in the spring of 1926 after growth had started showed that practically all of the trees from French Crab seedlings were killed back to the ground line. The Eastern or Vermont Crab seedlings were killed back about fifty per cent, while the trees from Northern grown seed came through in excellent shape. Some of the latter were entirely free from injury, and practically none were killed back for more than three or four inches.

The freeze of October, 1925, referred to above, killed thousands of trees even as far south as Texas. Most nurseries use French Crab or Vermont seed to grow the seedlings on which they graft the different varieties. Our trees are grafted only on seedlings grown from Northern Iowa grown seed, saved here at the nursery from such varieties as Duchess, Wealthy, Hybernal, and the Patten Greening, all of which are among the hardest varieties.

The above is one reason why our apple trees are better. The same practice holds true in Plums, Cherries, Pears, etc. Not only are the roots from Northern grown seed but the scions are Northern grown and the young trees themselves are grown to maturity on the open, wind-swept prairies of Northern Iowa. This makes our trees hardy for none but hardy trees endure. A tree or shrub that stands this test will succeed anywhere.

Our trees are better because they bear early. Expert growing and fertilization as well as growing each class on soil adapted to it develops a root system which can be equaled in but few nurseries. For this reason our trees transplant well. It is no unusual thing for our trees to bear fruit the second year out.

Our trees are better because they are true to name. We grow them ourselves. The buyer of nursery stock cannot be sure of getting

what he orders when dealing with firms who grow little or nothing themselves, but buy it wherever they can get it the cheapest.

Our trees are better because they are packed and delivered to the customer better. The experience of several generations of nurserymen is represented in our packing methods. Compare the condition of our trees on delivery with the conditions of the trees from the ordinary nursery and you will quickly understand one reason why we can say "Our trees are better".

Thousands of dollars and years of labor have been spent in the selection of our trees and plants and in their improvement, as well as in improving the methods of production, handling and packing, that our customers might have the best tree, shrub, plant, or vine that money can buy.

To some people Charles City is "way down south", yet a study of the table below will show that the weather conditions at Charles City are no different from those at St. Paul, Minnesota.

Place	Years of Record	Avg. Temp. Dec. & Jan.	Avg. Annual Temperature	Altitudes
Charles City	25	20 degrees	45 degrees	1075 ft.
Huron, S. D.	23	17.5 degrees	44 degrees	1287 ft.
Helena, Mont.	24	24.4 degrees	43 degrees	4109 ft.
Havre, Mont.	23	16 degrees	41 degrees	2183 ft.
Kansas City	15	33.4 degrees	54 degrees	909 ft.
LaCrosse, Wis.	31	22½ degrees	46 degrees	673 ft.
Omaha, Neb.	33	27¼ degrees	50 degrees	1105 ft.
Pierre, S. D.	16	20 degrees	47 degrees	1455 ft.
St. Paul, Minn.	31	19¼ degrees	45 degrees	758 ft.

Notice that the above is no comparison of "freak years". It covers the weather conditions for a generation. In fact, ever since the record has been kept. Latitude taken into consideration, Charles City has the reputation at the Weather Bureau of being the COLDEST SPOT ON THE MAP.

OUR CUSTOMERS SAY SO, TOO

Gentlemen: I thought I would let you know how I fared with your nursery stock and evergreens. I first want to tell you that your nursery stock and evergreens was the very best wrapped nursery stock that I ever received in all my life (I am 65 years old) and had nursery stock from firms in Illinois, Minnesota, Iowa and the Dakotas. Not only was it the best wrapped but the most heavily rooted and robust I ever had. If you issue a catalog please send me a copy. Respectfully,

AUGUST ESSIG, Sanborn, Minn.

Gentlemen: I have been thinking for some time I would write to you and tell you how much pleased I was with the nursery stock sent me. It was the best lot of nursery stock, I think, considered from every point, I have ever been able to secure. Practically everything has lived and is doing fine. It is good, sound, healthy stock of fine appearance, and came in the best of shape. I surely feel pleased with your stock and the way you handle your patrons. I will need some more stock again next spring and shall be glad to give you my order.

Yours truly,
DUDLEY A. REID, Osceola, Iowa.

Gentlemen: I received your shipment in fine condition. Trees could not be any bet-

Mr. Agent, Inform Yourself!

ter. They are just lovely and I will do everything in my power to make them grow.

Respectfully,

LEWIS A. BLOCKER, Clutier, Iowa.

Gentlemen: Several years ago I purchased through one of your agents a Fairfield climbing rose. It was a beautiful red rose, bloomed the first year and every year after from early spring until late fall. We have moved to a new location and I am very anxious to obtain another like it. Could you supply me with one and at what price? Yours truly,

MRS. HARRY PERKINS, Superior, Iowa.

Gentlemen: We want to tell you about your Brilliant apple trees that we have planted on our farm. They are the best keeper and the best eating apple we have ever had. They are heavy bearers and hang well to the tree. We have planted your trees for many years and always found your stock very good, and never had any trouble to get it to grow.

Yours truly,

AUSTIN BROS., Ferryville, Wis.

Gentlemen: Mr. Shellabarger has just delivered to me six Norway maples, exceedingly fine specimens, through the courtesy of your Mr. Burch, and I promptly planted them on the 10th. I am sure there will be no question about quality and growth. Thanking you, I am

Yours truly,

CHAS. J. MACKEY, City Manager,
Incorporated Town of West Liberty, Ia.

Gentlemen: Just returned today from Fargo and Valley City, N. D., where I marketed two carloads of apples, about 700 bushels of Patten's Greening and 470 bushels of Wealthy that were picked from trees that I set out about 18 years ago from your nursery.

Yours truly,

A. M. MORRISON, Decorah, Iowa.

Gentlemen: I delivered your nursery stock this year and wish to advise that I have never handled as high quality nursery stock in all my years of experience with fruit growing. Your goods are cheapest in the end, although some other companies are selling for less than your prices.

Yours respectfully,

C. A. REED, Hills, Minnesota.

Gentlemen: I forgot to tell you about a neighbor of mine by the name of O. B. Case. He and his son-in-law each bought a Loring Prize plum tree. Last fall these trees were four years old and bore their first crop of plums, about 16 pecks in all. They sold 14 pecks for \$14.15. How is that for making money off plums?

D. A. MOORE, Marshalltown, Iowa.

Dear Sirs: I ordered some fruit of you last spring, got it and planted it, and it all grew fine. I also ordered a few shrubs, a Baby Rambler rose, a snowball, and a few other

things. I want to tell you about the rose. It isn't more than 18 inches high now and is blooming. It has 66 roses on it and was just set out May 1st. The Snowball also had four or five snowballs on it. The fruit I got all grew, too.

MRS. HARRY LUNDSTRUM,
Route 1, Marshalltown, Iowa.

GETTING A PREMIUM WITH THE ORDER

The cost of nursery stock is increased when it is shipped to the customer's town or city to be delivered by some local party or a regular delivery agent, for the reason that this delivery and collection plan requires the nursery company to hire some business man or bank to look after the delivery for them. In case the delivery is large a man trained in the care and handling of nursery stock must be sent to see that the customer's goods are properly delivered. This means thousands of dollars in railway fares, salaries and other expenses yearly.

If goods are shipped parcel post or express C. O. D., there is a charge made for collection and return of the money. The handling of deliveries and collection by the above methods makes necessary an expensive bookkeeping system, and a lot of high priced office help to handle the thousands of accounts.

Then, too: Even though we use the utmost care in selecting some local party to make our delivery and collect the money, the customer often has losses on his stock and has his labor of planting and care for nothing, due to improper handling of his order by an inexperienced or negligent deliveryman.

These are the reasons that caused us to adopt the plan of CASH WITH ORDER. In adopting this plan, however, we have also planned that the customer who so pays should share liberally in the saving which prepayment makes possible.

WHAT WE DO FOR CUSTOMER WHO SENDS CASH WITH ORDER

We allow liberal premiums to all customers paying cash with their order. Every salesman should carry with him our special premium lists. These lists cover a large and varied assortment of useful and desirable trees, plants and shrubs, and in most instances the customer can, by careful choosing, get absolutely free, as a premium, stock equal to as much as 20% of his purchase.

In case the premium lists do not carry the stock your customer would prefer, allow him to choose from your catalogue, any stock as a premium, equal to 10% of his cash payment.

We acknowledge to the customer, receipt of his order and payment as soon as it is received, sending him a copy of the order as booked by us.

If cash payment does not accompany the order, we send with the copy, our latest premium list that the customer may consider it at more leisure with his family and select those premiums that will work into their plans to the best advantage.

Our Reputation Is Your Protection

Besides the premium, cash customers have the privilege of choosing between having their order packed in the general delivery box for their town and calling on delivery agent when notified, or have their order put up in a package by itself and shipped direct to their address, ALL CHARGES PREPAID. Shipments of this kind will be sent parcel post, express or freight. We will choose the one that will give them the most efficient and prompt service, depending upon size, weight, etc., and pack in bale or box, depending upon the style of packing that will get the particular kind of stock to them in the best possible shape.

In addition, special replace adjustments are made to cash customers in case any items fail to grow. In short, the CASH CUSTOMER gets special service all down the line.

HOW THE CASH CUSTOMER MAKES HIS PAYMENT

FIRST. All salesmen are provided with blank checks so drawn in our favor that they may be cashed ONLY at our bank in Charles City. The style of checks is no reflection on the agent but affords the customer absolute assurance that you are authorized to make the deal and that proper credit will be given.

SECOND. If the customer prefers to send the remittance to the company direct, he may do so and we will acknowledge receipt of it and credit his order with the remittance, at the same time book the order for the desired premiums.

PRUNING

For trimming of plants for planting, both in branch and root, see directions under each class of stock, such as apple, shrub, etc. The following instructions are given for the pruning in later years.

Light trimming may usually be done at any season without causing injury. If heavy trimming is necessary, it should be done preferably in late winter or early spring, or it may be done in early June when tree or shrub is just reaching full leaf and is full of vitality and just starting its new wood growth.

Apple, Plum, Cherry, Pear and Peach. See page 4.

Grapes. See page 17.

Currants and Gooseberries. Thin out hills in early spring, leaving 3 to 5 main stalks of the previous season's growth, cutting all two-year-old wood down to the ground.

Blackberries. Handle same as black raspberries.

Raspberries, Red and Black. Fruit borne on new growth. Clip back new stocks to thirty-inch height in June or July while wood is still soft, which makes these stocks branch and increase the bearing, wood and yield. In early spring before buds start, thin out hills of Red variety to 3 to 5 stalks of previous season's growth. Remove all dead wood. On Black variety, trim all limbs from the main

stalks back to 9 to 12 inch lengths at this time.

Hedges, Unclipped. Remove in the early spring only dead wood, or if hedge is getting larger than desired, cut off close to the ground the larger and older canes, leaving the younger canes to form a new hedge. The young canes may be trimmed back but be sure to leave enough wood surface to produce plenty of foliage, that the plant may sustain itself.

Hedges, Clipped—including clipped evergreen hedges, such as the Arbor Vitae. Special shears may be had at a small cost for this work and can usually be obtained from your local hardware dealer. Early June is usually the best time to trim hedges. Should the growth be excessive, however, they may be trimmed again later in the season at almost any time up to August. If trimmed later than this, they are apt to look rough the balance of the season as they are not likely to put on much growth after that date. In case a hedge has become overgrown and unsightly it may be heavily trimmed, bringing it to a lower height if the trimming is done early in the spring before buds start.

Shrubs. Early flowering varieties or those flowering during May, June and July—cut back immediately after flowering season is over, allowing them to throw out numerous shoots of new wood for the production of the next season's flowers. Late flowering varieties—those blooming after May, June and July, trim same as above except that trimming should be done prior to the showing of leaf buds in early spring.

Roses. Most bush varieties flower more freely if cut back to 15 to 18 inches of the ground in early spring. Climbing varieties flower more abundantly if at least one-third of previous season's growth is removed.

SPRAYING

On the next page will be found a Spraying Calendar, showing the formulas in most common use and directions as to their application. If the information you seek cannot be found in this calendar, or if trees suffer from some disease or pest not mentioned, we advise writing to your Agricultural Experiment Station, giving full details and particulars.

All amounts of lead arsenate referred to in the Spraying Calendar are for the dry, powdered form. If the paste form is used double the amount listed. Orchard and garden spray material and equipment in quantities may be purchased through the Iowa Fruit Growers' Association, State House, Des Moines, Iowa, at wholesale prices.

Do not spray with arsenates or copper compounds within 3 weeks of the time the sprayed portions are to be eaten. While there would be no danger of fatal effects resulting, it is best not to run any risk. Bordeaux mixture and other lime compounds should not be used upon rough or full-grown fruits even as late as that time. Not only does the lime disfigure the fruit, but the amount of copper is large.

Ask For Our Special Premiums On Cash Orders

Spraying Calendar

APPLE, PLUM, PEAR, CHERRY TREES

TROUBLE	WHEN TO TREAT	WHAT TO USE AND HOW
Oyster shell, scurfy and San Jose scale, peach leaf curl and plum pocket.	Dormant —Where scale is bad apply spray in March or early April before growth starts.	5 to 6 gallons lime sulfur with water to make 50 gallons. Completely cover surface of bark. Use only 3 gallons lime sulfur to 50 gallons for peach leaf curl or plum pocket.
(1) Apple scab, pear scab, brown rot on plum, canker worm, curculio and green fruit worm.	Cluster Bud —When blossom buds have separated and before the individual blossoms have opened.	5 to 6 quarts lime sulfur. 1½ pounds lead arsenate. 50 gallons water.
(2) Codling moth, canker worm, curculio and apple scab.	Petal Drop or Calyx —When 95 per cent of the petals have dropped from the blossoms.	5 quarts lime sulfur. 1½ pounds lead arsenate. 50 gallons water.
(3) Codling moth, apple scab, apple blotch and curculio.	Side Worm Spray —Apply 10 to 14 days after the calyx spray.	4½ quarts lime sulfur, 50 gallons water. or: Bordeaux Mixture 3-3-50, 3 pounds copper sulfate, 3 pounds quicklime, 50 gallons water. Use 1 pound lead arsenate with either.
(4) Second brood codling moth, apple maggot, scab, sooty blotch and black rot.	Fourth Spray —Apply July 20 to 30. Spray only fall and winter varieties of apples.	4 quarts lime sulfur. 50 gallons water or Bordeaux Mixture 4-4-50. Use 1 pound lead arsenate with either.
(5) Second brood codling moth, Sooty blotch.	Fifth Spray —August 1 to 15 or about 2 to 3 weeks after fourth spray.	Same material as for fourth spray. Fungicide may be left out if diseases are not bad.
NOTE —Where apple maggot is bad apply extra spray 2 weeks earlier than fourth spray, using same materials.	NOTE —Where apple blotch is found, put on an additional spray 4 to 5 weeks after the calyx spray.	NOTE —Write the Horticultural Extension Service for information concerning other orchard troubles.

GRAPES

Anthracnose and black rot, grape-berry moth, grape-root worm, grape curculio and leaf-eating insects.	1. A few days before blossoms open. 2. After blooming when grapes are size of small shot. 3. Two weeks after No. 2. 4. Ten days or two weeks after No. 3.	1. Spray with Bordeaux 4-4-50 formula. 2. Spray as in No. 1 plus 1½ pounds of lead arsenate for leaf eating insects 3 and 4. Same as No. 2.
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BLACK RASPBERRIES

Anthracnose.	1. Just before leaves appear. 2. When new shoots appear. 3. Just before blossoming.	1. Spray with lime sulfur 2½ gallons to 50 gallons of water. 2. Spray with lime sulfur 5 quarts to 50 gallons of water. 3. Spray same as in No. 2.
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STRAWBERRIES

Leaf Spot.	1. When new growth starts in spring followed by two more applications at intervals of 10 days or 2 weeks.	Bordeaux Mixture 4-4-50.
Leaf Roller.	When insect first makes its appearance, followed by weekly applications until fruit is well formed.	2 pounds lead arsenate. 50 gallons water.

CURRANTS AND GOOSEBERRIES

Currant "worm".	When insect makes its appearance.	3 tablespoonfuls dry lead arsenate to each gallon of water. See also page 18.
Aphis or plant lice.	Insects will be found on under side of leaves.	Nicotine sulfate, 2 teaspoonfuls to each gallon of water.

GARDEN FLOWERS AND HOUSE PLANTS

Aphis or plant lice on roses, nasturtiums, poppies and all other garden flowers, house plants and shrubs.	As soon as the lice are discovered.	Nicotine sulfate (commercial name, "Black Leaf 40"), 1 teaspoonful in 2 quarts of water. Dissolve about 1 cubic inch of soap in the water.
Rose slug or worm.	As soon as discovered.	Spray with arsenate of lead, 1 ounce to a gallon of water.
Rose leaf hopper. Whitish jumping insects which suck the juice from the plants.	As soon as discovered.	Treat as for aphis or lice.
Red spider on hardy phlox. Tiny spiderlike insect on under side of leaves.	When leaves turn yellow.	Spray with soap and nicotine solution as for lice. Syringe foliage often with water during dry weather.
Powdery mildew on the rose and other plants.	When whitish powdery patches appear on leaves and young shoots.	Dust the foliage with sulfur or spray with potassium sulphide, 1 ounce to 3 gallons of water.
Scale and mealy bug on ferns, palms, and other house plants.	As soon as discovered.	Spray with any of the following: Lemon oil emulsion. Fir tree oil soap. Fish oil soap. Repeat in 10 days if necessary.

Spraying Means Healthy Fruit and Flowers

Ready Reference for Selecting Shrubs

HOW TO USE THIS TABLE: The following table is not intended to give a complete description of the various varieties of shrubs—this will be found on pages as indicated—but rather to give a ready reference to the more prominent characteristics of each, together with position preferred as to sun, partial shade or shady location. This table also gives the average height at which these shrubs are generally found growing in this latitude. For instance, if you desire one or more shrubs blooming in June, run down the column headed "time of bloom" and you will find all June blooming varieties. If you are looking for one or more shrubs of a certain color of flower, certain height, color of fruit, or for some particular place or purpose, this information can readily be found by following down the respective columns.

NAME	Per- scrip- tion, See Pg.	Time of Bloom	Color of Flower	Avg. Height	Color of Fruit	Use for Which Shrub Is Adapted, and Proper Spacing for Planting	Location Preferred	Remarks
ACER GINNALA (Japan Maple)	41			10-12 ft.	Bright Pink	Groups, Mass Planting, 3 to 5 ft.	Sun or partial shade	Especially valuable for its variegated green to crimson foliage and seeds. The seeds are very similar to but much smaller than soft maple seeds and change shade from green to bright pink. One of our most attractive large shrubs or dwarf trees.
ACACIA, See Rose Acacia, p. 44								
ALPINE CURRANT	41	May	Yellow	3- 5 ft.		Specimen, Mass or Group, 3 to 4 ft. Hedging, Clipped or Unclipped, 12 in. Border, 2 to 3 ft.	Sun or partial shade	Will stand in very dry locations where few others will succeed.
ALTHEA, Double Flowering	41	August- September	Various	8-10 ft.		Group, 3 to 4 ft.	Sun or partial shade	Not hardy north of Central Iowa. Various varieties. Have purple, violet, red and white flowers.
ARALIA PENTAPHYLLA	39		Yellow			Groups, Border, 2 to 3 ft.	Sun or partial shade	Not hardy north of Central Iowa. Excellent for dry and sandy soil.
ARALIA SPINOSA (Hercules Club)	41	June	Yellow	5- 6 ft.		Specimen Groups, 3 to 5 ft.	Sun	Not hardy north of Central Iowa. Prefers dry, sandy soil.
ASH, WAFER (Hop Tree)	41			8-10 ft.	Greenish	Border, 3 to 5 ft.	Sun or partial shade	Attractive for its large clusters of winged seeds.
BECHTEL'S CRAB (See Crab)								
BOX BARBERRY	39	June	Yellow	12-18 in.	Bright Red	Hedging, 4-8 in. Walk or Bed Margins, 2-4 in.	Sun or partial shade	See complete description, page 39.
BARBERRY (See Jap. Barb'y)								
BUCKTHORN	39	June July		4- 6 ft.	Black	Border or Foundation, 2-3 ft. Hedging, Clipped, 12-18 in.	Sun	Very thorny. Makes thick, dense hedge. Turns dogs and trespassers.
BUFFALO BERRY	41	June	Yellow	3- 4 ft.	Red- Yellow	Mass, 2-3 ft. Border, 1-2 ft.	Sun or partial shade	Good for sandy banks. Fruit abundant. Leaves gray or silvery.
BUTTERFLY BUSH (Buddleia)	41	August- September	Beautiful Lilac	3- 4 ft.		Border, Foundation, 1½-2 ft.	Sun or partial shade, sheltered	Gets full height first season after planting, often having as many as 50 flower spikes. Both flower and foliage at- tractive. Dies to the ground each fall.
CALYCANTHUS	41	June	Reddish Brown	3- 4 ft.		Specimen, Border or Founda- tion, 2-3 ft.	Sun, sheltered	Both wood and flowers fragrant.
CORNUS AMOMUM	41	June	White	6- 8 ft.	Pale Blue	Mass, Group, Border, 3 ft.	Sun or partial shade	
CORNUS ELEGANTISSIMA (Variegated Dogwood)	41	June	White	8-10 ft.	Blue	Use sparingly for group or mass planting, 3 ft.	Sun or partial shade	Variegated green and white foliage, bright red bark. Will stand sun, but partial shade preferred.
CORNUS PANICULATA	41	May	White		White	Specimen, Mass, Border, 3 ft.	Sun or partial shade	Especially useful for gray branches and white fruit in winter.
CORNUS SANGUINEA (Red Branched Dogwood)	41	June	Cream	8 ft.	Light Blue	Mass, Group, Border, 3 ft.	Sun or partial shade	Good for bright red branches.
CORNUS SIBIRICA (Coral Dogwood)	41	June- July	White	6-10 ft.	Whitish Blue	Border, 3 ft.	Sun or partial shade	Very hardy. Handsome shrub or small tree.
CORNUS STOLONIFERA	41	June	White	4- 6 ft.	White	Mass, Border, 3 ft.	Sun or partial shade	Smaller than the other dogwoods. Particularly good near water.

COTONEASTER (Acutifolia)	40	May	Pink	4- 5 ft.	Dark Purple	Hedge, 1 ft. Group, 2-3 ft.	Sun	Resembles privet, but absolutely hardy.
CRAB, RECHTEL'S DOUBLE FLOWERING	42	May	Delicate Pink	6-12 ft.		Specimen. Gets to be 8 ft. or more across top	Either sun or partial shade	One of the finest large shrubs or small trees for this latitude. Strikingly beautiful when in bloom.
CRAB, SCHEIDECKERI	42	May	Light Rose	6-12 ft.		Specimen. Gets to be 8 ft. or more across top	Either sun or partial shade	Double flowering. Fully as attractive as the above.
DEUTZIA LEMOINEI	42	June	White	3- 4 ft.		Foundation. Group, 2-3 ft.	Sun	One of the most attractive shrubs. Do not use north of Central Iowa.
DEUTZIA—PRIDE OF ROCHESTER	42	May	White	2- 3 ft.		Foundation. Group, 2-3 ft.	Sun	One of the most attractive shrubs. Do not use north of Central Iowa.
DOGWOOD (See Cornus)								
DOUBLE FLOWERING PLUM (Prunus triloba)	42	May	Light Pink	6-10 ft.		Specimen. Mass. Gets to be 8 ft. or more across top.	Either sun or shade	Flowers resembling Flowering Almond but much larger.
ELDER, CUT-LEAVED	42	June	White	4- 6 ft.	Deep Purple	Mass. Border, 3-4 ft.	Partial shade	Very desirable for its fern-like deep green foliage.
ELDER, CUT-LEAVED GOLDEN	42	July	White	5- 8 ft.	Deep Purple	Mass. Border, 3-4 ft.	Partial shade	Similar to the above, except light green foliage.
ELDER, GOLDEN	42	July	White	5- 8 ft.	Crimson	Border, 3-4 ft.	Sun	Very hardy, rapid grower. Thrives in any good soil. Use sparingly.
ELDER, RED BERRIED	42	May	White	6- 8 ft.	Bright Crimson	Border, 3-4 ft.	Sun	Hardy, rapid grower. Thrives best in moist location.
EUONYMUS (Strawberry Bush)	42	June	Yellow-Scarlet	8 ft.	Yellow-Scarlet	Border, 3-4 ft.	Sun or shade	Upright bush or small tree with good foliage. Handsome in fall with its scarlet berries.
EXCHORDA GRANDIFLORA (Pearl Bush)	42	May	White	5- 6 ft.		Border, 3-4 ft.	Sun or shade	Beautiful large flowers. Slow in growth. Always plant with and back of other border shrubs.
FLOWERING ALMOND (Double Pink)	42	May	Pink	2- 4 ft.		Foundation. Specimen, 2-3 ft.	Sun	One of the finest old fashioned flowering shrubs.
FLOWERING ALMOND (Double White)	42	May	White	2- 4 ft.		Foundation. Specimen, 2-3 ft.	Sun	Same as above except with white flowers.
FORSYTHIA INTERMEDIA (Upright Golden Bell)	42	April	Yellow	6- 8 ft.		Border, Foundation, Mass, 2-3 ft.	Sun	See page 42 for full description.
FORSYTHIA SUSPensa	42	April	Yellow	4- 6 ft.		Good ground cover for terraces, 2-3 ft.	Sun	Similar to Intermedia except of drooping habit. Does well trained on trellis.
HANSEN'S PURPLE PLUM	42	May-June	Deep Purple	6-12 ft.		Specimen. Border, 3-4 ft.	Sun	Small tree. Highly colored purple foliage. Similar to Prunus pissardi except much harder. Use sparingly.
HAWTHORN (Thornapple)	46	May	White-Pink	8-10 ft.	Clusters of Red Fruit	Specimen. Border, 3-4 ft.	Sun	Small tree completely covered with white flowers in spring and red berries in fall.
HAZELNUT	42			4- 8 ft.	Edible Nuts	Border, 3-4 ft.	Sun	Native Hazelnut of our woods.
HERCULES CLUB (See Aralia)								
HIGH BUSH CRANBERRY (Americana)	42	May-June	White	6- 8 ft.	Brgt. Crim.-son Clstrs.	Border. Mass. Specimen, 3-4 ft.	Sun	Free from insects. Unusually valuable. See full description on page 42.
HIGH BUSH CRANBERRY (Viburnum Opulus, Europ'n)	42	May-June	White	6- 8 ft.	Bright Crimson	Border. Mass. Specimen, 3-4 ft.	Sun	Similar to above. Berries the same except very bitter; hanging all winter; unattractive to birds.
HONEYSUCKLE, MORROWII	42	May	Creamy White	3- 4 ft.	Deep Red	Mass. Border. Foundation. Group, 3 ft.	Sun, partial shade	Foliage remains green after other Honeysuckles have shed their leaves. Very showy in its fall fruit.
HONEYSUCKLE, RUPRECHTIANA	42	May-June	White	6- 8 ft.	Bright Red	Mass. Border, 3-4 ft.	Sun, partial shade	Effective reddish-brown twigs.
HONEYSUCKLE, TARTARIAN, PINK	42	May-June	Pink	6- 8 ft.	Scarlet	Mass. 3-4 ft. Border, 3-4 ft. Group, 3-4 ft. Hedge, 18 in.	Sun or shade	Abundance of fragrant flowers in spring, followed by red berries. Very useful for screens or tall hedges.
HONEYSUCKLE, TARTARIAN, WHITE	42	May-June	White	6- 8 ft.	Scarlet	Mass. 3-4 ft. Border, 3-4 ft. Group, 3-4 ft. Hedge, 18 in.	Sun or shade	Same as above except flower is white.
HOP TREE (See Ash, Wafer)	43	July to September	White	4- 6 ft.		Mass. Foundation. Group. Border, 3-4 ft.	Sun or partial shade	For profusion of flowers cut back within 6 or 8 inches of ground in early spring.
HYDRANGEA ARBORESCENS (Hills of Snow)	43	August-September	White changing to pink	6- 8 ft.		Mass. Border. Group. Foundation, 3-4 ft.	Sun or shade	See description, page 43.
HYDRANGEA, Paniculata Grandiflora	43	August-September	White changing to pink	8-10 ft.		Specimen	Sun or shade	Same as above except grown as standard or tree form.

NAME	For Description, See Pg.	Time of Bloom	Color of Flower	Avg. Height	Color of Fruit	Use for Which Shrub Is Adapted, and Proper Spacing for Planting	Location Preferred	Remarks
JAPANESE BARBERRY	39	June	Yellow	3-3½ ft.	Bright Red	Hedge, 12 in. Mass, 2-3 ft. Border, 2-3 ft. Group, 2-3 ft. Foundation, 2-3 ft. Specimen	Sun	Valuable for hedges, either clipped or unclipped. Fall foliage fiery in color, scarlet berries persist all winter. See full description on page 39.
JAPANESE TREE LILAC	43	June-July	Creamy White	15-20 ft.			Sun, partial shade	Very hardy. Rapid in growth. Flowers in large panicles often a foot in length.
JAPAN QUINCE	43	April	Scarlet	3-4 ft.	Green	Group, 2-3 ft.	Sheltered, sunny location	Magnificent shrub. Not reliably hardy north of Central Iowa.
JAPAN SNOWBALL	43	June	Crimson	6-8 ft.		Group, Mass. Border, 3 ft.	Sun or shade	One of our best shrubs. Foliage better than the old fashioned Snowball. Free from insects and highly colored in fall.
KERRIA, JAPONICA	43	June	Bright Yellow	2-3 ft.		Mass. Foundation, 2-3 ft.	Sheltered, sunny location	Beautiful, vivid green branches, showy in winter. Distinctive foliage; dense shiny green; sharply toothed.
LILAC, CHARLES X	43	May	Reddish Purple	6-8 ft.		Mass. Border, Specimen. Group, 3-4 ft.	Sun or partial shade	Single flowers. One of the best French Lilacs.
LILAC, CHINESE TREE	43	July	Creamy White	8-12 ft.		Specimen	Sun or partial shade	See full description on page 43. Exceptionally valuable.
LILAC, JAPANESE TREE (See Japanese Tree Lilac)	43	June-July	Violet Purple	8-10 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Late blooming variety; generally after other sorts. One of our best. Should be included in every garden.
LILAC, JOSIKEA	43	May	Dark Purple	6-8 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Superb variety. See full description on page 43.
LILAC, LUDWIG SPAETH	43	May	Creamy White	6-8 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Profuse double flowering French Lilac.
LILAC, MME. CASIMIER PERIER	43	May	White	6-8 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Free and showy double white. One of the new fine French Lilacs.
LILAC, MME. LEMOINE	43	May	White	6-8 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Free grower. Very fragrant. Undoubtedly one of the best White Lilacs.
LILAC, MARIE LEGRAYE	43	May	Pale Lavender	6-8 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Very double, delicately beautiful trusses of splendid size. Plant dwarf and stocky.
LILAC, MICHEL BUCHNER	43	May	Lavender	6-8 ft.		Foundation, Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Attractive among other shrubs. Very desirable.
LILAC, PERSIAN PURPLE	43	May-June	White	6-8 ft.		Foundation, Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Similar to the purple variety.
LILAC, PERSIAN WHITE	43	May-June	Rose	6-8 ft.		Mass. Group, Border. Specimen, 3-4 ft.	Sun or partial shade	Large double rose colored French Lilac.
LILAC, PRESIDENT GREVY	43	May	Purple	8-10 ft.		Mass, 3-4 ft. Border, 3-4 ft. Hedge, 18 in.	Sun or partial shade	Common Lilac of the old fashioned garden. Useful for high hedges or screens.
LILAC, PURPLE	43	May	Purple	6-8 ft.		Mass. Group. Border, 3-4 ft.	Sun or partial shade	Very profuse and fragrant flowers in immense panicles.
LILAC, ROTHOMAGENSIS	43	May-June	Reddish Purple	5-6 ft.		Mass. Group. Border, 3-4 ft.	Sun or partial shade	A Japanese variety. Especially fine foliage. Fragrant flowers two to three weeks later than other Lilacs.
LILAC, VILLOSA	44	June-July	Light Lavender, turning to White	10-12 ft.		Mass. Group. Border, 3-4 ft.	Sun or partial shade	Pure white, very fragrant flowers. Taller than the common Purple Lilac. The old fashioned variety.
LILAC, WHITE	44	May	White	4-5 ft.	Black	Specimen	Sun	One of the finest small trees. See complete description on page 44.
MAY DAY TREE	44	May 1st	White					
NINEBARK (See Spirea Opulifolia)								
PRIDE OF ROCHESTER (See Deutzia)	40	May-June	White	6-8 ft.	Purple	Hedge, 12 in. Border, 2-3 ft.	Sun	Tall clipped hedges. Not reliably hardy north of Des Moines, Iowa.
PRIVET, AMOOR RIVER								
PEARL BUSH (See Escobardo)	40	July	White	4-5 ft.	Purple	Hedge, 12 in.	Sun	Low hedges. Not recommended for planting north of Central Iowa.

PRUNUS PISSARDI (Purple Leaved Plum)	44							Not hardy. Recommend Hansen's Purple Plum, which it closely resembles, for which see description on page 42.
PRUNUS TRILOBA (See Double Flowering Plum)								
PURPLE FRINGE (Smoke Tree)	44	June	Yellow Green	8-10 ft.		Specimen.	Mass, 2-3 ft.	See description on page 44.
PURPLE PLUM (See Hansen's, also, Prunus Pissardi)								
RHODOTYPOS KERROIDES (See Althea)	41	May-June	White	4- 5 ft.	Black	Foundation.	Mass, 2-3 ft.	Very ornamental with bright foliage followed by shining black fruits.
ROSE OF SHARRON (See Althea)								
RUSSIAN OLIVE (Eleagnus Angustifolia)	44	June	Yellow		Light Silvery	Hedge, 12 in.		An ideal hedge for screens and backgrounds in Northern and Western sections. Should be clipped for dense growth and dense effect.
SALIX URALENSIS (Hedgewood)	40					Hedge, 12 in.		Splendid new hedge. Very hardy. See description, page 40.
SCHWEDECKERI CRAB (See Crab)								
SNOWBALL, COMMON (Viburnum Opulus Sterilis or Guelder Rose)	44	Last of May	White	6- 8 ft.		Mass.	Border. Group, 3-4 ft.	The old fashioned Snowball.
SNOWBALL, JAPAN (See Japan Snowball)								
SNOWBERRY, RED (Indian Currant)	44	July	Pink	3- 4 ft.	Reddish Purple	Mass.	Border. Group. Foundation, 2-3 ft.	A most desirable shrub for shady locations. Fruit in clusters completely covering its long, slender, gracefully drooping branches. Retains its fruit all winter. Easily grown.
SNOWBERRY, WHITE (Symphoricarpos Mollis)	44	July	Pink	3- 4 ft.	White	Mass.	Border. Group. Foundation, 2-3 ft.	A decided improvement in foliage as compared with the White Snowberry listed below. Its showy, waxy white fruit, often over one-half inch in diameter, on its graceful branches, are often used for winter bouquets.
SNOWBERRY, WHITE (Symphoricarpos Racemosus)	44	July	Pink	3- 4 ft.	White	Mass.	Border. Group. Foundation, 2-3 ft.	Similar to the Red Snowberry, except in color of its fruit, which is white.
SPIREA ANTHONY WATERER	44	June until frost	Rose	1½-2 ft.		Foundation.	Group. Border, 18-24 in.	Blooms persistently all summer. One of the dwarf varieties.
SPIREA ARGUTA	44	May	White	4- 6 ft.		Foundation.	Group. Border, 2-3 ft.	In bloom two or three weeks before the Bridal Wreath. Especially valuable for its early flowers.
SPIREA AUREA (Golden)	44	June	White	6- 8 ft.		Mass.	Border, 3-4 ft.	The most desirable yellow leaved plant for this latitude. Has rough golden bark.
SPIREA BILLARDI	44	July-August	Bright Pink	4- 5 ft.		Foundation.	Mass. Border, 3-4 ft.	Upright in habit; hardy; good for hillsides and dry situations.
SPIREA BUMALDA	45	July-August	Rose	2- 3 ft.		Foundation.	Group. Mass, 2-3 ft.	Compact, low-growing shrub. Dwarf in habit. Excellent in masses in front of taller shrubs.
SPIREA CALLOSA ALBA	45	All Summer	White	1½-2 ft.		Foundation.	Group. Mass, 18-24 in.	White flowering dwarf type. Masses well with other Dwarf Spiraeas.
SPIREA CALLOSA RUBRA	45		Rose	3 ft.		Foundation.	Group. Mass, 2-3 ft.	Foliage reddish purple, fading to green. Spreading habit.
SPIREA CRISPIFOLIA	45	June to September	Light Pink	1½-2 ft.		Foundation.	Group. Border, 18-24 in.	Good for shady and dry locations. Very attractive delicate flowers. Persistent bloomer.
SPIREA FORTUNEI	45	June to September	Deep Pink	2 ft.		Foundation.	Group. Border, 2-3 ft.	Dwarf type. Foliage deep green. Upright habit.
SPIREA FROEBELI	45	June to September	Dull Pink Crimson	2- 3 ft.		Hedge, 12 in.	Foundation. Group. Mass, 2-3 ft.	One of the best and most hardy Spiraeas, and should be used in every planting. Fine for low unclipped hedges. Stands drought extremely well.
SPIREA OPULIFOLIA (Ninebark)	45	Early Summer	Dull White	8-10 ft.		Mass.	Group. Border, 3-4 ft.	Useful for tall planting.
SPIREA SORBIFOLIA (Ash Leaved)	45	July	White	3- 5 ft.		Mass.	Group. Border, 3-4 ft. Foundation.	Desirable in every way. Vigorous grower, beautiful fern-like foliage, large spikes of feathery cream white flowers. 6 to 12 inches in length.

N A M E	For De- scrip- tion. See Pg.	Time of Bloom	Color of Flower	Avg. Height	Color of Fruit	Use for Which Shrub Is Adapted, and Proper Spacing for Planting	Location Preferred	Remarks
SPIREA SUPERBA	45	June- July	Pale Lavender	2 ft.		Mass. Foundation. Group, 2-3 ft.	Shade	Not recommended for sunny locations.
SPIREA THUNBERGII	45	April- May	Pure White	3- 4 ft.		Hedges, 18 in. Mass. Group. Foundation, 2-3 ft.	Sun	The earliest flowering of all the Spiraeas. Forms a dense, feathery shrub of neat, graceful habit. Ideal medium size undrilled hedge.
SPIREA VAN HOUTTEI (Bridal Wreath)	45	May	White	6 ft.		Foundation. Mass. Group. Border, 2-3 ft.	Sun, partial shade	Commonly called Bridal Wreath.
SUMAC, CUT LEAVED	45	June- July	Yellow	8-10 ft.	Crimson	Mass. Border, 3-4 ft.	Sun or partial shade	Large fern-like leaves. Attractive fall fruit.
SUMAC, SMOOTH (Rhus Glabra)	45	June- July	Yellow	10-12 ft.	Crimson	Mass. Border, 3-4 ft.	Sun or partial shade	Useful for high background or screen planting.
SUMAC, STAGHORN	45	June- July	Yellow	10-20 ft.	Crimson	Mass. Border, 3-4 ft.	Sun or partial shade	Nothing better for screening objectionable views.
SWEET SCENTED SHRUB (See Calycanthus)								
SYMPHORICARPOS (See Snowberry)								
SYRINGA, CORONARIUS	45	May- June	Pure White	6- 8 ft.		Mass. Border, 3-4 ft.	Sun	Old-fashioned Mock Orange. See Syringa or Mock Orange.
SYRINGA, GOLDEN	45	May- June	White	4- 6 ft.		Mass. Border. Foundation, 2-3 ft.	Sun	Attractive for its golden foliage. Use sparingly as an accent.
SYRINGA, GRANDIFLORA	45	May- June	White	6- 8 ft.		Mass. Border, 3-4 ft.	Sun	Conspicuous for its large flowers.
SYRINGA, LEMOINEI	45	Early June	White	4- 5 ft.		Foundation. Mass. Border, 2-3 ft.	Sun	Very fragrant, slender arching branches. One of the best flowering shrubs.
SYRINGA OR MOCK ORANGE	45	May- June	White	6- 8 ft.		Mass. Border, 3-4 ft.	Sun	Splendid for heavy shrubbery border plantings. Cream white flowers in abundance. Good foliage.
TAMARIX, AFRICANA	46	April- May	Pink	6-10 ft.		Mass. Group. Border, 3-4 ft.	Sun	Thrives best when planted among other shrubs for protection. Feathery, light green foliage; very distinct from all other shrubs.
THUNBERGII (See Jap. Barberry)								
TAMARIX, ODESSANA	46	July- August	Lavender Pink	4- 6 ft.		Mass. Group. Border, 3-4 ft.	Sun	Fine feather-like foliage of silvery green color. Flowers in large, loose panicles.
THORNAPPLE (See Hawthorn)								
TREE LILAC (See Japanese Lilac, also Lilac Chinese)								
TREE ROSE (See Crab, Bechtel's)								
VIBURNUM DENTATUM (Arrow Wood)	46	May- June	White	6- 8 ft.	Steel Blue	Mass. Group. Border, 3-4 ft.	Sun or partial shade	Bright green, heart-shaped leaves, turning to purple and red.
VIBURNUM LANTANA (Wayfaring Tree)	46	May	White	8-12 ft.	Red, turn- ing to Blk.	Mass. Group. Border, 3-4 ft.	Sun or partial shade	Heavy, wrinkled, soft, leather-like leaves. Retains its foliage late.
VIBURNUM LENTAGO (Nanny-berry)	46	May- June	White	6-10 ft.	Bluish Black	Mass. Group. Border, 3-4 ft.	Sun or partial shade	Sometimes called Blackhaw. Fruit edible.
WAFER ASH (See Ash, Wafer)								
WAYFARING TREE (See Viburnum Lantana)								
WEIGELIA EVA RATHKE	46	June- July	Ruby Carmine	4- 5 ft.		Foundation. Border, 2-3 ft.	Sun or partial shade	Remarkably free bloomer of unusual color.
WEIGELIA ROSEA	46	June- July	Rose Pink	4- 5 ft.		Foundation. Border, 2-3 ft.	Sun or partial shade	Similar to above. An exceptionally fine shrub. One of the best.
WEIGELIA, VARIEGATED	46	June- July	Ruby Carmine	4- 5 ft.		Foundation. Border, 2-3 ft.	Sun or partial shade	A thick growing shrub of dwarf habit, distinctive for its variegated foliage in green, white and yellow.
WHITE FRINGE	46	May	White	8-10 ft.	Blue	Mass. Group. Border, 3-4 ft.	Sun or partial shade	Large dark green leaves. Fragrant, drooping, finely cut white flowers.

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